

American ^{STACK} Vegetable Grower

JANUARY • 1959

and MARKET GROWERS JOURNAL

TECHNOLOGY DEPARTMENT JAN 15 1959

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*FIRESTONE T.M.

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Firestone

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**...backed by 2½ centuries
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Yields will be bigger and your profits greater when you plant the vegetable seeds specifically developed for your special growing conditions and markets.

Four leading seed specialists—the creators of SEED RESEARCH SPECIALISTS INC.—have totaled nearly two and a half centuries of intensive breeding on specific types of vegetable seeds. Now, under the distinctive new SRS label, they are working together . . . to provide an even greater expansion of their *specialized* seed research programs.

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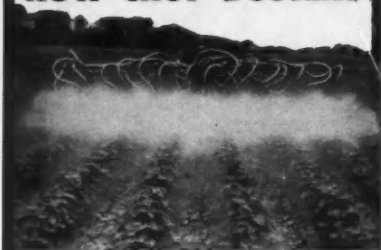
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American Vegetable Grower



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Commercial Vegetable Grower
Market Growers Journal

VOL. 7 No. 1
JANUARY, 1959

Cover photographs
Lettuce field, by A. Devaney, Inc., New York.
Lettuce seed, by Victor R. Boswell, of USDA,
author of the monthly feature,
Know Your Vegetable Seeds

FEATURES

- Do Vegetable Varieties Run Out?..... 9**
By Allen R. Trotter
- Keep Your Eye on These Varieties.....10-13**
A four-page pictorial feature
- VGAA Lays Plans for Next 50 Years.....14**
By R. T. Meister
- Tomato for Warm Areas.....22**
By P. A. Young
- All-America Selections for 1959.....24**
- New Tomato for Smaller Cans.....26**

DEPARTMENTS

- Letters to the Editor..... 6 Calendar of Coming Meetings.....28
- State News16 Book Review28
- Know Your Vegetable Seeds.....16 As It Looks to Me.....34
- Answering Your Questions.....18 New for You.....38

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NEW YORK: W. J. Martin and Company
185 Madison Ave. Phone—Murray Hill
3-2865.

SAN FRANCISCO: McDonald-Thompson,
625 Market St. Phone—Yukon 6-0647.

NEW JERSEY: W. J. Martin and Company,
612 Bernita St., Rivervale (Westwood
P.O.). Phone—Parkridge 6-1595.

LOS ANGELES: McDonald-Thompson, 3727
West 6th St. Phone—Dunkirk 7-5371.

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Wabash. Phone—Dearborn 2-0292.

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ern Ave. Phone—Eliot 3767.

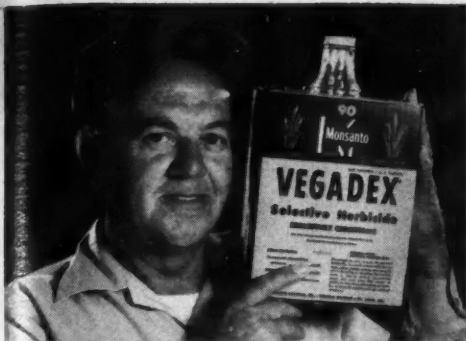
AMERICAN VEGETABLE GROWER is published by American Fruit Grower Publishing Co., Willoughby, Ohio. E. G. K. Meister, Publisher and Chairman of the Board; Edward L. Meister, President; Richard T. Meister, General Manager; Gilbert Meister, Vice-President. Subscription price \$1.00 per year in U.S. and possessions; to Canada and other foreign countries \$2.00. Single current copies 25c; copies over one year old 75c.

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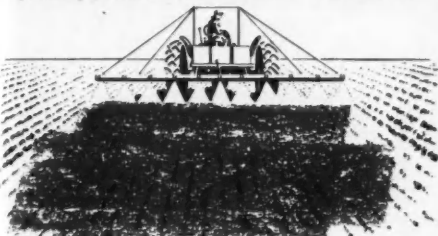
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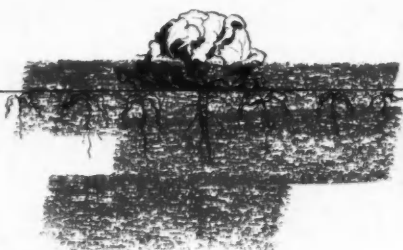
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HOW VEGADEX SAVES UP TO \$100/ACRE ON HAND WEEDING



Spray Vegadex on the soil when you plant. It forms an invisible chemical "blanket" that covers your fields.



When weeds sprout, they touch the Vegadex "blanket" and die... but the crop grows through unharmed. (Vegadex won't build up in soil—you can spray it safely every time you plant.)



RESULT: Vegadex makes you more money 2 ways... 1. You get bigger yields, healthier crops. 2. You can save from \$20 to \$100 per acre on hand-weeding costs.*

*Proved by commercial growers in their own fields.

Monsanto's "Red" Emm Reports:

Leading vegetable growers reveal money making power of VEGADEX® weed-killing blanket!

"Vegadex applied properly will save a celery grower at least \$100 an acre in hand-weeding labor costs. We used 2 quarts of Vegadex per acre in band treatments. Weed control was excellent with no crop damage."

Gordin L. Gore, Mt. Dora, Florida

"I lost several crops to weeds before I used Vegadex. Also, I was able to grow only one or two crops a season. But with Vegadex, I have grown turnip greens, mustard, spinach, snap beans, kale and collards... and I hope to grow at least four more next year."

J. W. Thoni, Nashville, Tennessee

"Vegadex gave me better than 90% control of purslane and chickweed with no adverse effect on my celery. I treated two acres of celery this year but plan to spray my whole crop next year."

Peter Ludema, Hudsonville, Michigan

VEGADEX CAN MAKE MONEY FOR YOU, TOO. This new, spray-as-you-plant weed killer for vegetables kills weeds as they sprout. Vegadex practically eliminates hand weeding, assures better quality crops with cleaner harvests.

VEGADEX CONTROLS... purslane, careless weed, henbit (blue-weed), pigweed, crab grass, barnyard grass (water grass), bull grass (goose grass), chickweed, foxtails, annual blue-grass.

VEGADEX IS SAFE FOR... collards, mustard greens, turnip greens, broccoli, cabbage, snap beans, soybeans, celery, sweet corn, kale, spinach, hanover salad, brussels sprouts, lima beans, lettuce, garden beets, cauliflower and field corn.

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Raise Soil Fertility to the High-Profit Level

Good soil fertility can mean the difference between an average vegetable crop and an excellent one—between a fair and a really profitable year.

Since much of your crop goes just to pay production costs, a higher yield of better quality vegetables from each acre can boost your net income way up. Swift's Specialized Crop Makers contain extra growth elements that actually raise the fertility of your soil—make every acre of land work harder for you.

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Your Swift dealer will be glad to help you plan a soil fertility program using Blenn, Brimm, Vigoro Commercial Grower or Red Steer. Contact your nearest Swift office.



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WHEN YOU'RE FARMING TO MAKE MONEY, SWIFT'S YOUR FINEST BUY!

LETTERS TO THE EDITOR

Irradiated Seeds

Dear Editor:

Some interesting experimental work with irradiation of vegetable seeds has been carried out recently by Christos C. Mpelkas, head, vegetable crops department, Essex County Agricultural School, Haverthorne, Mass.

Last spring we irradiated a variety of vegetable seeds in our 2-million-volt Van de Graaff radiation facility here in Burlington for Mr. Mpelkas. He brought us a sample of the vegetables resulting from his controlled plantings of those seeds, and the effects are most interesting, if not startling. They are briefly: a marked increase in yield (8-10 pounds per plant in the case of tomatoes); a better blossom-to-fruit ratio; apparently increased cell development; improved resistance to disease; faster maturation; and surprisingly improved preservation qualities. Wheat, pumpkins, corn, cucumbers, were among the samples which showed improvement.

We are always interested in following up the many peaceful applications of ionizing radiation from our particle accelerators.

Burlington, Mass. Nathan Tufts, Jr.

High Voltage Engineering Corp.
Preliminary results of Mr. Mpelkas experiments are:

- 1) One million rads—all seeds were killed, except the corn and wheat which the Hypocotyl grew only 1 to 1½ inches in length and then died.
- 2) Ten thousand rads—showed stimulation of growth by an increase in vegetative and fruit production.
- 3) Five thousand rads—showed a greater stimulation of vegetative parts and fruit production by one-half times over the controls. The root systems were less extensive than the 10,000 rads treatment. The flavor of tomatoes and cucumbers was much sweeter than the controls and also the 10,000 rads exposure.
- 4) Both the 5000 and 10,000 rads treatments were not given any insecticide or fungicide treatments, and they did not show any plant disease infections, while the controls showed disease infections.—Ed.

Arkansas Honeydews

Dear Editor:

Back in the April issue a grower in Arkansas wrote that his honeydew melons were not sweet but had a bitter taste. It might be that he had squash bug and cucumber beetle trouble. I had the same trouble for a while.

Another thing, honeydews need all the daylight and sun they can get here.

I use about 100 pounds of salt to the acre on my trials plus a little borax and I do not crowd the plants too close.

Summers, Ark. Wendell H. Doyle

Even Better

Dear Editor:

For many years I subscribed to *Market Growers Journal* and now to your publication which I find infinitely more interesting than *Market Growers Journal*, good as it was.

Your publication helps keep me abreast of the studies taking place in the United States vegetable field and has enabled me to make many valuable contacts and acquire first-rate literature on vegetable crops.

N. Rhodesia, C. Africa Jack Hadfield

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Choose **TEAMED-POWER** For Economical Pest Control

8 row-crop acres in 32 minutes . . . excellent insect and disease control

This is the "honest truth" as reported by Perry Knorr, potato and tomato grower of Catawissa, Pennsylvania. TEAMED-POWER cuts his spraying time two-thirds. One tankful covers seven to eight acres in an average of 32 minutes with a 3X mixture and gives excellent insect and disease control.

THE SPRAYER: The Oliver Iron Age® with vegetable row-crop Spra-Blast—including the famous Iron Age pump. No other sprayer can match the quality and economy advantages of this modern Oliver: choice of dependable high-pressure pumps, complete envelope-type coverage of full 60-foot swath, rot- and corrosion-resistant tanks, adjustable tread width and under-clearance, handy remote controls with finger-tip convenience.

Double savings when matched with...

THE POWER: A smooth-powered 6-cylinder Oliver 770 or 880—both recognized for power leadership in row-crop farming. Both available with gasoline or diesel engine. Ask for a demonstration. See how TEAMED-POWER can save for you with these modern power uses—Power-Traction Hitch, Power-Booster Drive, power steering, Powerjuster rear wheels and Independently Controlled PTO.

Try TEAMED-POWER before you buy any tractor or sprayer and get big TEAMED-POWER savings at every turn. The Oliver Corporation, 400 West Madison Street, Chicago 6, Illinois.

See Your **OLIVER DEALER** and See

You solve 3 basic insect-control problems automatically...when you spray or dust malathion



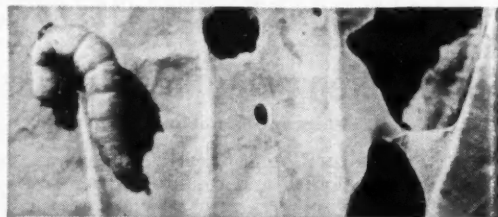
INSECT-KILLING POWER THAT'S EASY TO HANDLE SAFELY. Malathion is a phosphate with all a phosphate's killing power. But, as the USDA reports, "it's one of the safest insecticides to handle." (You don't need a respirator or protective clothing to handle malathion safely.) The

leading aphicide for vegetables, it controls over twenty other vegetable pests, including leafhoppers, worms, thrips. Yet, the U.S. Public Health Service states, "...the toxicities of malathion (oral and through the skin) are less than those of DDT."



RESIDUE PROBLEMS. Malathion can be used on most vegetables up to 72 hours from harvest . . . up to 24 hours on beans. Malathion kills insects fast. Its residues disappear rapidly. And, it has a high residue *tolerance*. These built-in advantages make malathion the ideal insecticide for late-season control problems.

Write for Malathion Handbook, American Cyanamid Company, Dept. AV 1, Agricultural Division, N. Y. 20, N. Y.



CONTROLLING HARD-TO-KILL INSECTS. Cabbage loopers and aphids are two top vegetable pests that are becoming harder to kill. Malathion is a leading aphicide, even for hard-to-kill strains. The new combination of malathion-perthane takes care of the hardest to kill loopers.



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Do VEGETABLE VARIETIES

Run Out?

A noted authority on breeding and research sets the record straight in answering this question

By ALLEN R. TROTTER

NOT so long ago we visited the well-managed farm of an up-to-date New Jersey vegetable grower who told us with some disgust that he was getting out of the pepper business. His trouble was tobacco mosaic, and when we asked him if he had tried Yolo Wonder he replied, "Yes, for a couple of years, but then the seed ran out."

On further discussion it turned out that Yolo Wonder had not done well for him and that he was blaming his troubles on genetic breakdowns in the variety, even though it had been introduced only three or four years previously.

Since this type of complaint is frequently expressed by growers, and since it is nearly always based on a misunderstanding of the principles of genetics, usually combined with a hazy memory, we should like to consider at some length the question of "running out."

"Running out" is not a well-

The author, Dr. ALLEN R. TROTTER, is Deputy Director of Breeding and Research for Associated Seed Growers, Inc., New Haven, Conn.

defined term, but usually it implies that the variety has retrogressed toward an ancestral prototype inferior in uniformity, quality, or field performance.

Investigation of many cases of "running out" in properly maintained seed stocks has failed to reveal any true cases of rapid regression to an undesirable ancestral type. In fact, under modern plant breeding and seed production methods, true regression in a properly maintained variety or strain would indeed be a genuine miracle.

Frequently the trouble is caused by weather conditions. Brief periods of temperature just a few degrees below normal can cause bolting in onions, celery, carrots, and crops of the cabbage family; while a short spell of hot weather can cause spinach, lettuce, and other leaf crops to send up seed stalks before they can be harvested. A quick hot spell can also interfere with proper pollination, causing crooked, flat pods in beans, misshapen fruits in peppers, skips in peas, and unfilled ears in corn.

More often than one might sus-



The hallmark of the professional plant breeder's work is uniformity and trueness to type of the final product, the commercial vegetable crop.

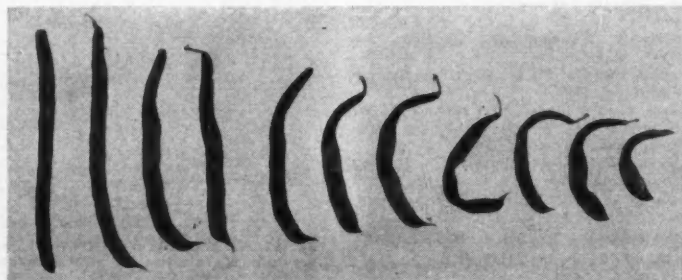
pect, plant diseases are the cause of poor performance.

Another factor all too frequently overlooked is the human element. Changing market standards as well as new harvesting and marketing methods profoundly influence the value of a strain or variety. The pressures of today's competitive market have placed a premium on uniformity and attractiveness of fruits. Rising costs have made it more desirable to harvest a maximum crop with a minimum of labor.

We are often dealing with a moving target. The variety hasn't changed; we have. When the New Jersey pepper grower first tried Yolo Wonder, he was comparing it with California Wonder in terms of disease resistance and was willing to accept some of the less desirable features, including a rather high percentage of flattened fruits. Now he was taking the disease resistance for granted and was dissatisfied with the fruit quality. The variety hadn't changed; he had.

The major part of a seed company's plant breeding program is devoted to maintaining the seed stocks of the vegetable varieties they produce. Generally, maintenance consists of single plant selections which must then be evaluated. In this evaluation those selections deviating from the ideal type are discarded, with only the best retained.

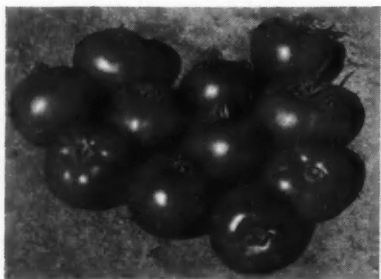
These are increased and again
(Continued on page 37)



These beans didn't "run out." Poor pods caused by high temperatures during pollination.

Keep Your Eye on THESE VARIETIES

Many of these varieties are brand new, others are just beginning to receive recognition. Try them. You may find they are ideal for your area



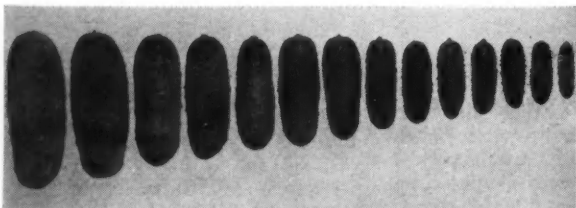
853 CARDINAL HYBRID is a Harris crack-resistant Glamour-type tomato. Rich red interior, solid structure, and mild sweet flavor make it an excellent big tomato for roadside stands and local markets. Big yielder midseason to frost.



Offered by Asgrow, **PEARSON VF6** (above) and **PEARSON VF11**, verticillium and fusarium wilt-resistant tomatoes, developed by G. C. Hanna, California AES, and O. S. Cannon, USDA. VF6 is for fresh use, as green-wraps and pinks, and for canning where Pearson is used; VF11 is for canning, suitable as green-wrap or pink shipper.



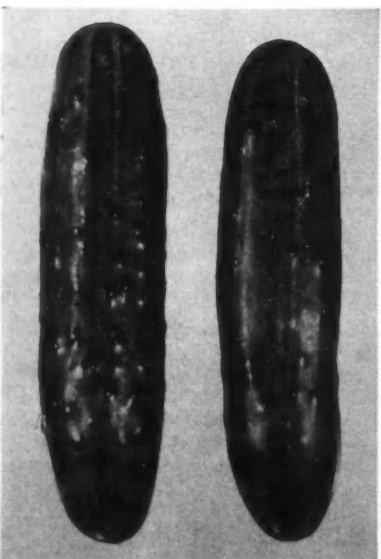
Harris' **GOLD CUP** sweet corn is delicious to eat, and looks it. Big yielder; plant produces two good, medium-sized ears 7 1/2 to 8 inches long with 14 to 16 rows of glossy, narrow kernels. Seven-foot plants are erect, with few tillers.



Asgrow and National Pickle Packers Assn. developed **NAPPA 63** for the pickle-growing areas of North Central states. Scab resistant, with moderate tolerance to cucumber mosaic. Offered also by Letherman's.



WISCONSIN SMR 18, pickling cucumber developed by Wisconsin AES, is scab resistant; good tolerance to cucumber mosaic. Heavier, earlier producer than Wisconsin SMR 15. Available from Asgrow and Letherman's.



BURPEEANA HYBRID cucumber is dark green and has none of speckling found in other hybrids. Vigorous, productive; matures early, few days before Burpee Hybrid. Fruits 8 to 9 inches long, 2 1/4 inches wide; produces over long period.

WHERE YOU CAN BUY SEED

Seedhouses will gladly send you additional information on these varieties. Place your seed orders early. Good seed of good varieties will insure the success of your planting.

American Seedless-Watermelon Seed Corporation, Goshen, Ind.

Associated Seed Growers, Inc. (Asgrow), 205 Church St., New Haven 2, Conn.

Burgess Seed & Plant Co., Galesburg, Mich.

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Dessert Seed Company, Inc., P.O. Box 181, El Centro, Calif.

Ferry-Morse Seed Co., Box 778, Detroit 31, Mich.

Gill Bros. Seed Co., Mantavilla Station, Portland 20, Ore.

Joseph Harris Company, Inc., Moreton Farm, Rochester 11, N.Y.

Billy Hepler Seed Co., 76 Madbury Rd., Durham, N.H.

The Holmes Seed Company, 1017 Ninth St., S.W., Canton, Ohio.

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Michael-Leonard Co., 1701 Rockingham Rd., Box 777, Davenport, Iowa.

Northrup, King & Co., 1500 Jackson St., N.E., Minneapolis 13, Minn.

Lawrence Robinson & Sons, Modesto, Calif.

Robson Quality Seeds, Inc., Hall, N.Y.

Otis S. Twilley, Salisbury, Md.



RESISTANT ASGROW VALENTINE resembles Asgrow Black Valentine in plant and pod type, yielding ability, and market quality, but resistant to common bean mosaic. For local and distant markets. Offered also by Letherman's.

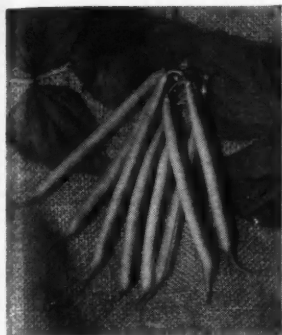
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TENDER CROP by USDA, a straight, slim long, dark green. Widely adapted for...

Robson's SE early market growing 4 1/2 black green indrical leaves kernels. Col...

USDA 2567-Cornell, det Charleston, Resists wit...

TRI-X HYBR less variety seeds and has tough...



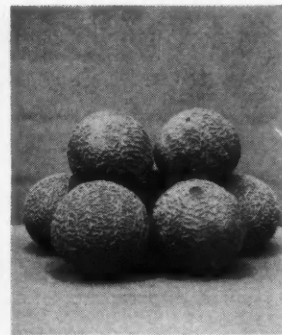
TENDERCROP snap beans developed by USDA, available from Harris. Straight, slim pods are 5½ inches long, dark green, and stringless. Widely adapted over country; excellent for canning and freezing.



Purdue University's **CARO-RED** tomato, rich in vitamin A. Ripens about 78 days. Good size, globe-shaped, orange-red flesh, distinct flavor. Excellent canner and juicer. Offered by Burgess.



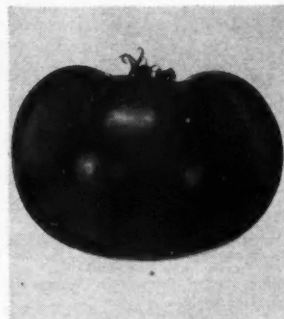
Just the right size for a small family serving, **BABY HEAD** cabbage has solid, round heads, 4 inches across, about 1 pound each. Ripens in 62 days; a true header. Seed is available from Burgess.



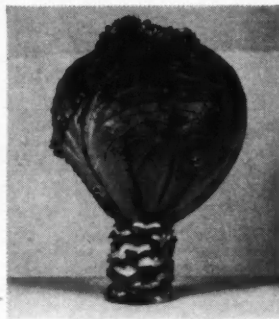
SPARTAN ROCK muskmelon, developed by Michigan State University, introduced by Holmes. Compared with Honey Rock, week earlier, firmer flesh, smaller seed cavity, better shipper. Weighs 2 to 3 lbs.



Robson's **SENECA SUNBEAM**, an early market hybrid sweet corn growing 4½ feet tall, few tillers, black green foliage and husks. Cylindrical leaves, 12-14 rows narrow kernels. Cold resistant.



Burgess developed **SUPER-COLOSSAL** F1 hybrid tomato from Improved Colossal. Earlier (85 days), more productive, finer eating, more uniform shape and size than parent. Weighs 1 to 2½ pounds.



Ideal for harvesting over long season, **EARLIEST ROUND RED** cabbage forms heads early and is ready when small. Matures in 64 days. Globular heads purplish-red. Available from Burgess.



A cooking squash, **WHITE ACORN**, a Dessert release, is new type of Table Queen. Skin is pure white and texture is smooth; it is acorn shaped. Quality is excellent and interior flesh is white in color.



USDA 2567-1 bush bean, about to be released by Cornell, developed by Dr. J. C. Hoffman, of Charleston, S.C. Few days earlier than Wade. Resists wilting; for freezing and fresh use.



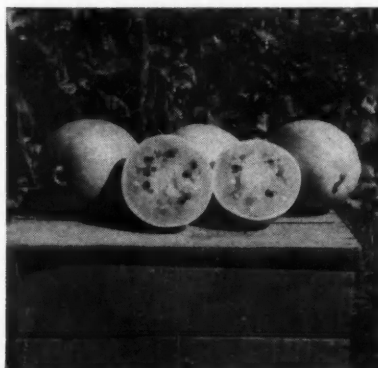
GREAT LAKES NO. 118-A, individual selection of 118, is one of finest shipping quality Great Lakes head lettuce. Dark green color at base, large butt on head. Available from Dessert.



Offered by Dessert, **PHOENIX** is a Great Lakes selection out of 659-G, darker color, flatter head, and flat base. Larger, not quite as heat resistant; planted after 659-G in desert areas.



TRI-X HYBRID NO. 392, a new American Seedless variety, is oblong watermelon with few seeds and exceedingly small ovules. This triploid has tough rind, red flesh, and is very sweet.



Selected for northern summers, **GOLDEN MIDGET**, from New Hampshire AES, is offered by Hepler. Turns yellow in ripening; no more thumping and pressing rind to test maturity. Bright red flesh.



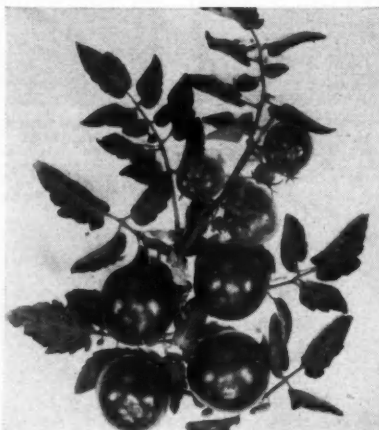
SUPERMARKET F1 hybrid muskmelon offered by Robson. Oval, tough rind, heavy netting, little cracking at blossom end. Resistant to downy mildew and fusarium wilt. Seed cavity small.

VARIETIES . . .

Seed of the varieties shown on these two pages are available from suppliers listed on the picture page entitled *Keep Your Eye on These Varieties*.



Introduced as KVF-54-65, **GOLDEN PROLIFIC** sweet corn is available from Cornell. Large, uniform, high quality ears and excellent yield in tons per acre make this hybrid worthy of trial.



OREGON CENTENNIAL tomato, a selection by Paul G. Smith, Jefferson, Ore., and Gill Bros., for canning, especially in North, and market use. Medium early maturity; large, firm fruit.



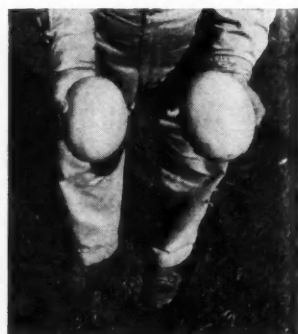
INDIAN RIVER tomato developed at Florida Experiment Station, offered by Cornell. High resistance to gray wall, fusarium wilt, gray leaf spot. Used mature green or vine ripe.



Northrup, King's **NK GOLDEN ACRE** cabbage has outstanding head, plant uniformity; heads 5½ to 6½ inches in diameter. Matures about 4 to 6 days earlier than Copenhagen; for fresh market and shipping.



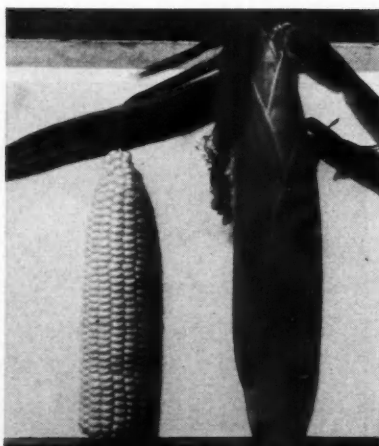
S.R. 1463, surfur-resistant muskmelon, offered by Dessert. Heavier net than S.R. 91, excellent shipper.



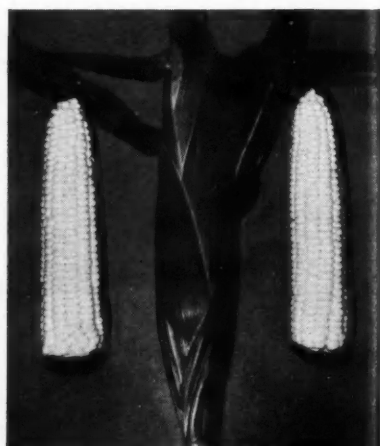
NECTAR melon, available from Hepler. Smooth yellow, early, with a sweet flavor much like Honeydew.



Containing twice as much vitamin C as in other tomatoes, **DOUBLERICH**, developed by Dr. A. F. Yeager, New Hampshire, is offered by Burgess. Firm, globe-shaped fruit ripens early.



NK 75 sweet corn, uniform 7- to 8-inch eared hybrid, developed by Northrup, King. Second early, matures about three days before Carmelcross; for fresh market, canning, and shipping.



EARLIKING sweet corn, first early-hybrid available from Northrup, King. Matures in about 66 days. Plant 5 to 5½ feet tall, ear 7 to 8 inches long, mostly 12 rows, good tip fill.

A Maine A
PROVED HIGH
excellent slice
This variety is

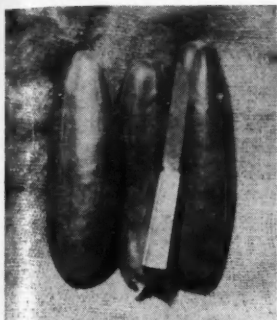
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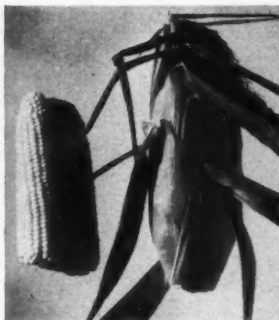
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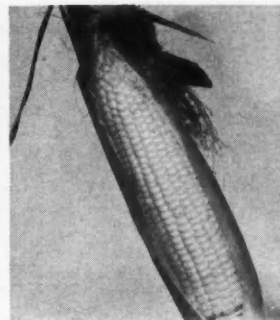
A Maine AES introduction, IMPROVED HIGHMOOR cucumber is excellent slicer and scab resistant. This variety is available from Hepler.



ORANGE BUTTERCUP, semi-dwarf, 3- to 5-pound squash, soft rind, golden flesh. Buttercup sweetness, not as dry. Offered by Hepler.



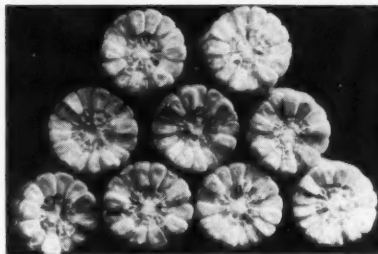
MORNING SUN sweet corn, 72-day hybrid in season with Marcross, for short-season areas. Kernels deep; offered by Northrup, King.



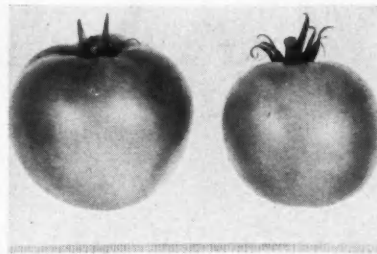
GOLD CREST hybrid offered by Ferry-Morse and Twilley. Matures 67 days, two weeks before mid-season varieties. Well-filled tips.



Offered by Northrup, King, **PERFECTO BLANCO** onion is selection from strain of White Sweet Spanish for stripping or bunching. Semi-hardy under severe winter conditions, high yielding.



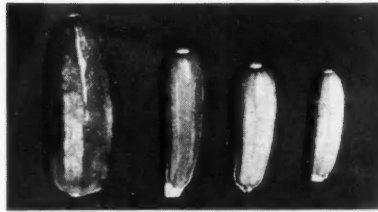
GOLDEN SENSATION, Michael-Leonard introduction, tender entire edible period of 7 to 10 days. Mostly 14 to 16 rowed, rich yellow, 84 days in season, deep kernels, and small cob.



PINKSHIPPER tomato, developed by USDA, introduced by Holmes. Fusarium wilt resistant, less cracking than Gulf State Market. Deep pink at maturity, fruit ripens with Marglobe.



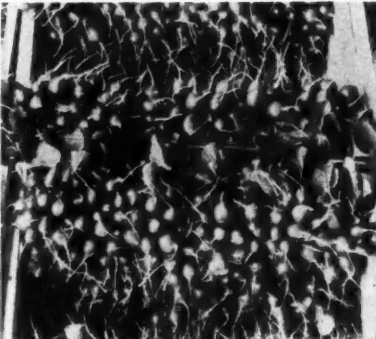
WISCONSIN SMR 15, bred by Dr. J. C. Walker, Wisconsin AES, offered by Asgrow and Letherman's. Scab and cucumber mosaic resistant. Fruits of National Association shape, color.



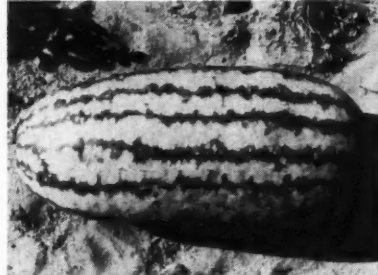
A Dessert release this year, **VERDUE** squash is a F₁ hybrid crossed between a Zucchini and Caserta. Production is very high and quality of the green fruit is described as excellent.



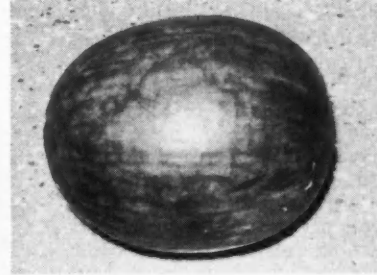
Asgrow's **COZELLA** hybrid bush summer squash of Cocozelle type. Plant is single-stem type, deeply cut leaves; produces heavy, early crop of medium-long, straight fruits. Glossy skin.



Asgrow radish, **GLOBEMASTER** is in Short Top Scarlet Globe class, for bunching or cellopak. Adapted for muckland. Roots bright red, tops heavy, good color. Offered by Letherman's.



GARRISONIAN watermelon, offered by Robinson. Large, striped variety resembling Garrison or Georgia Rattlesnake, better shipping and eating qualities. Resistant to anthracnose.



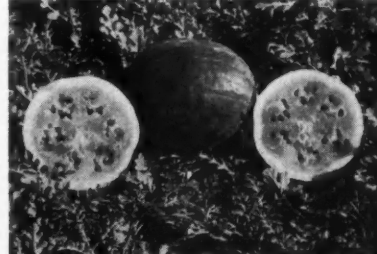
HOPE DIAMOND watermelon, an Arkansas AES development, offered by Robinson and Asgrow. Resistant to anthracnose and fusarium wilt. A Black Diamond type, superior shipper.



Harris' **RESISTANT DANISH** cabbage, first F₁ hybrid Danish. Round, firm heads of medium size, excellent color, yellows resistance. Matures earlier than other Danish cabbages.



SUMMIT, developed by Louisiana AES, available from Robinson. High quality melon adapted to distance shipping. This heavy producer is cross between Calhoun Sweet-Black Diamond.



BLACKSTONE, a Black Diamond type watermelon, sets good uniform crop of melons suitable for shipment and general purposes. Good quality, attractive. Offered by Robinson and Asgrow.



New president is George DeVries shown at right with the new vice-president, Charles Kreuziger.



Secretary of Agriculture Ezra Taft Benson was the keynote speaker on first day of convention.



Featured on international meeting program was Walter Pretzer (left) and England's A. J. Wills.

VGAA LAYS PLANS for Next 50 Years

**Anniversary meeting reaffirms basic principles
for welfare of vegetable and potato producers**

By **R. T. MEISTER**
Editor

OVER and again it was brought out at the 50th annual meeting of Vegetable Growers Association of America that changes in vegetable and potato marketing make it essential for producers to join together to adequately solve their problems. The Cleveland, Ohio, meeting in December reaffirmed the basic purpose of the national vegetable growers' group as one voice for vegetable and potato growers everywhere.

Keynote speaker was Secretary of Agriculture Ezra Taft Benson. He flew in from Washington the morning of the first day of the convention, gave a press conference which resulted in nationwide radio, TV, and newspaper publicity for vegetable growers, delivered his talk at the convention where he received a standing ovation, visited and shook hands with each of the 65 supplymen exhibitors, and returned to Washington for important meetings that evening.

A man of great energy and earnest conviction, Secretary Benson made a fighting speech to the thousand or more vegetable and potato growers in the audience. "We must have programs that will not freeze agricultural production patterns in such a way that they cannot be adjusted to changing circumstances," he said.

He pointed out how Congress is pricing tobacco growers out of world tobacco markets because of rigid price fixing and at the same time have cut acreage allotments so tobacco growers cannot use efficient methods. We

are rationing poverty, he said.

Calling the present wheat situation critical, he said the surplus has risen and risen until the daily storage bill will reach \$700,000 a day.

He congratulated vegetable growers for resisting proposals for price supports and controls. "By keeping yourselves free to adjust, free to advance, free to meet your challenges, you have marketed your products and remained in full control of your industry," he said.

Congressman Clifford G. McIntire, of Perham, Maine, a friend of potato producers, predicted continued inflation and increased taxes. He suggested that government be used as a servant, not as master, and he asked growers to improve quality but keep production in hand so that producer and consumer alike may prosper.

Convention delegates from 30 local, state, and regional member groups unanimously adopted 28 policy resolutions favoring freedom from federal controls, opposing federal farm land reclamation, favoring farm co-operatives and marketing agreements, opposing potato futures, asking for help to control starlings, blackbirds and San Juan rabbits, urge anti-trust laws to cover labor unions and exploring truck unloading charges, and asking that the "vicious" system of excessive retail price markups be investigated.

John Carew, professor of horticulture at Michigan State University, pointed out to the convention how changes in marketing vegetables are forcing the small grower out of busi-

ness. Delegates voted unanimously that the VGAA board of directors make a study of helping small but efficient growers stay in business because they are an important part of the vegetable industry.

On each of the three days, the meeting was divided into three parts, for truck and processing growers,



Hon. Clifford G. McIntire, congressman from Maine, gave his views on legislative matters.

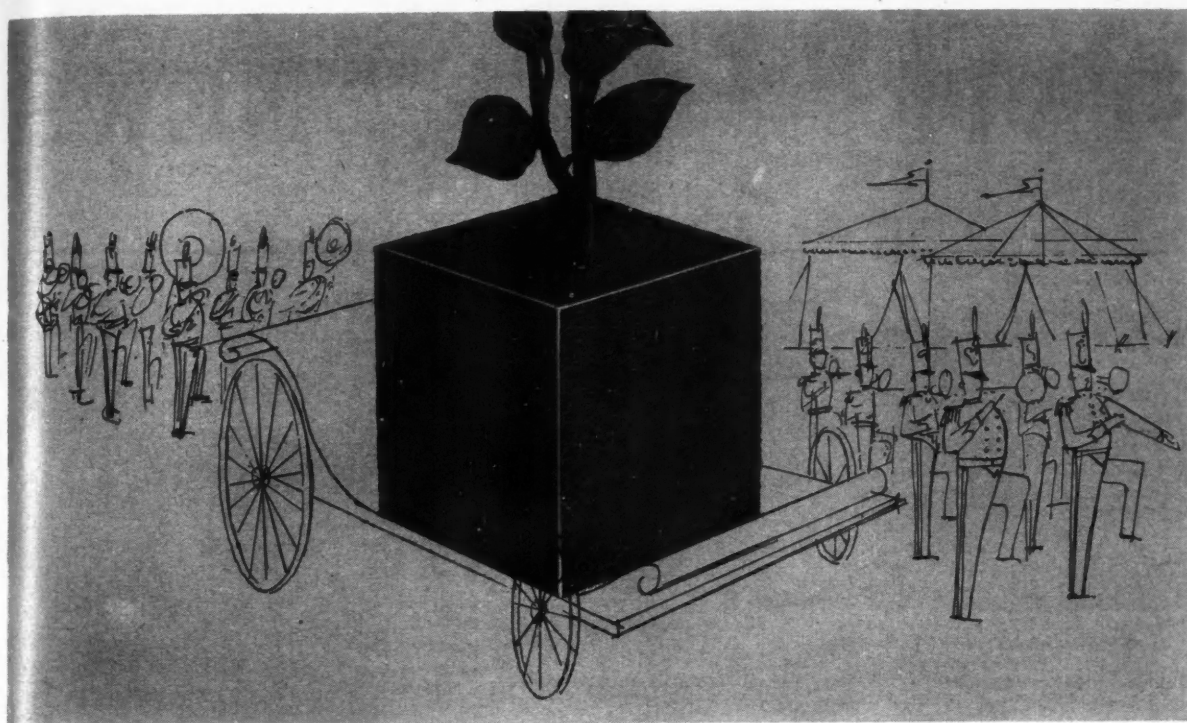
greenhouse growers, and potato growers.

Truck and processing growers learned about new developments in mechanization, black plastic mulch, late blight control, producing for quality, varieties, and cost accounts for better farm management.

Greenhouse growers learned about greenhouse insect control, fertilization, tomato varieties, marketing tomatoes, and greenhouse vegetable research. The National Association of Greenhouse Growers held their annual meeting in conjunction with the convention.

(Continued on page 32)

AMERICAN VEGETABLE GROWER



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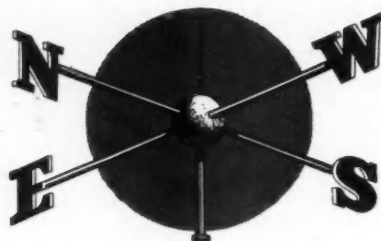
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STATE



NEWS

- Georgia Growers Get Ultramodern State Farmers Market
- Ag Man Forecasts Superfarms Organized As Corporations

New Market For Produce Men

GEORGIA—Georgia's new \$10 million State Farmers' Market, probably one of the finest of its kind in the world, will be dedicated this month.

Located in Clayton County 10 miles from downtown Atlanta, the market covers 100 acres of a 146-acre tract purchased by the state. All units are constructed of pre-cast concrete.

In the section for farmers, 16 covered sheds have been built, each of which will accommodate 62 trucks. The nine buildings of 26 units each for produce dealers and brokers are located on a higher level than the farmers' units. Some 560,000 square feet of enclosed space is reserved for the dealers, half being refrigerated for handling perishables. Truck platforms are in front of the dealers' buildings and railway facilities are available in the rear. The market is equipped also with a service station, restaurants, and office space.

This project was financed by the sale of bonds authorized by the General Assembly through the Georgia Farmers' Market Authority. Unit rental fees are expected to be around \$650,000 annually while operating costs are estimated at \$250,000, an increase of about 15% over the old facility.

New Marketing Specialist

MINNESOTA—Frank J. Smith, Jr., Berkeley, Calif., has been named a vegetable marketing specialist on the agricultural extension service staff at University of Minnesota.

Smith has studied at California State Polytechnic College, Purdue University, and University of California where he is now completing work on a Ph.D. in agricultural economics.

In 1953 Smith was appointed a co-operative agent for the USDA and the University of California. He conducted research on several phases of harvesting and marketing lettuce.

Superfarm Prediction

OREGON—An expanded agricultural research program was called for at the 73rd annual meeting of Oregon State Horticultural Society, held at Corvallis. This need was pointed up by Dr. G. Burton Wood, head of OSC agricultural economics department, in a general assembly address wherein he said that America is moving toward superfarms. This is an entirely new form of farm organization and not just an increase in size.

In this type of agriculture, a farmer takes bundles of technology developed by research people, and uses them on his farm to produce crops that meet specifications set by his markets.

This is calling for a brand new type of farmer, one who, as a business man, is not necessarily interested in his farm as

USDA ACREAGE-MARKETING GUIDES

Acresage-marketing guides for 1959 crop spring vegetables for fresh use and spring melons have been issued by USDA. The recommended total planted acreage for vegetables is 3% below 1958 and for melons, 1% below 1958.

The guides cover 18 major fresh vegetables and two spring melon crops that will be marketed principally during April, May, and June. They are part of an annual series designed to assist growers in planning production.

a place to live. It does not mean the end of the family farm, Wood emphasized. More and more farms are being set up on a corporation basis with members of the family holding shares.

The new superfarms can be a threat or an opportunity, depending on whether or not the farmers take advantage of the possibilities for increased efficiency offered by this type of farming, Wood concluded.

Growers Plan Winter Meeting

OHIO—One of the most comprehensive programs in the history of the Ohio Vegetable and Potato Growers Association has been planned for the 44th annual meeting to be held in Toledo, February 2-4, according to Leonard Bettinger, president.

Separate sessions on greenhouse vegetables, outdoor vegetables, and potatoes, together with general sessions, a breakfast meeting, coffee hour, and a ladies' program have been planned.

Greenhouse growers will have a session on soil testing and a report on European greenhouse production and research, followed by grower reports on movable greenhouses, direct seeding of fall tomatoes, soil sterilization and raising Bibb and leaf lettuce.

Richard Sawyer, Long Island Vegetable Research Farm, will present for the potato grower some of their findings on irrigation, fertilizer practices, and storage.

Why potatoes sometimes fail to make chips will be discussed by Don Isleib, farm crops department, Michigan State University.

Outdoor growers will have two sessions. One will be on pesticide recommendations conducted by staff members from Ohio State University and Ohio Agricultural Experiment Station. The other will be a report on bacterial spot of tomatoes and peppers by R. W. Samson, Purdue University plant pathologist. Morris Allton, Ohio Farm Bureau Federation, will review legislative issues.

The trade show promises to be a highlight of the meeting.

For a copy of the program, write to the Association's office, 1827 Neil Ave., Columbus 10.—E. C. Wittmeyer, Sec'y.

(Continued on page 30)

Know Your . . .

VEGETABLE SEEDS

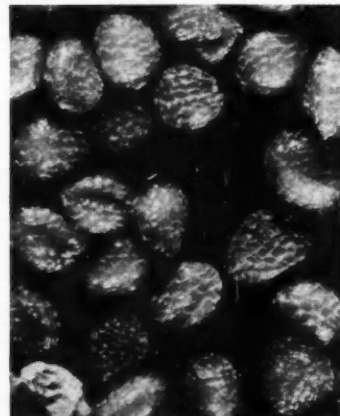
By VICTOR R. BOSWELL
U.S. Department of Agriculture

WATERCRESS

WATERCRESS seeds are notable for their extremely small size. They are only about half as big as celery seeds and average about 140,000 seeds per ounce.

Unlike seeds of other members of the mustard family illustrated in this series, watercress seeds are generally ovoid in shape but vary from ovoid to globular. They are light to dark brown. The seed surface is prominently marked by a fine, sharp, raised netting that suggests a honeycomb pattern. The surface pattern is distinctly different from that of mustard or cabbage seed. In proportion to the size of the seed, these markings are much larger and more sharply delineated than the surface patterns in mustard and cabbage. The seeds are borne in small, many-seeded, two-compartmented pods that are typical of the family.

No figures are available on the quantity of watercress seed produced annually in the U.S., but it is very small. In the early 1950's, 200 to 400 pounds were imported annually. Since the commercial crop is propagated by cuttings as well as by



seeds, not much seed is required for the limited plantings made annually.

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The modern new John Deere "730" Diesel offers you more than 58 belt horsepower to handle large equipment and make the most out of every man-hour... fuel economy that is unmatched by any other tractor... plus every modern John Deere feature to save your muscle and enable you to do better work with less strain and fatigue. The new "730" Diesel is a complete economical and practical answer to the power requirements of large-acreage row-crop farming opera-

tions. Here's a tractor that will handle 5-bottom plows (shown above)... 18-foot double-action disk harrows... 6-row planting and cultivating equipment, and similar loads. One man becomes a giant in terms of daily work output at the wheel of this powerful tractor. See your John Deere dealer soon and learn all the facts on how a new John Deere "730" Diesel will make farming easier, more enjoyable, and more profitable for you.

All the Modern Features

Modern John Deere features available on the "730" Diesel include: Advanced Power Steering, Custom Power-Trol, Universal 3-Point Hitch, Independent PTO, Roll-O-Matic "knee-action" front wheels, Float-Ride Seat, fenders with dual lights, and many others.

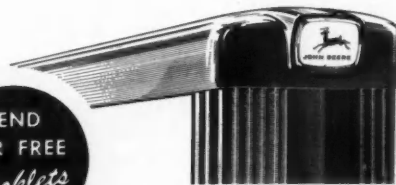
Unmatched Fuel Economy

The new "730" Diesel features the same outstanding engine that set the all-time tractor fuel-economy record in official tests. You can choose a new "730" Diesel with either gasoline-engine starting or electric starting.



A variety of front ends is available to tailor the "730" to your crop requirement—single or dual wheels, or the adjustable-axle model shown above.

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for the vegetable grower

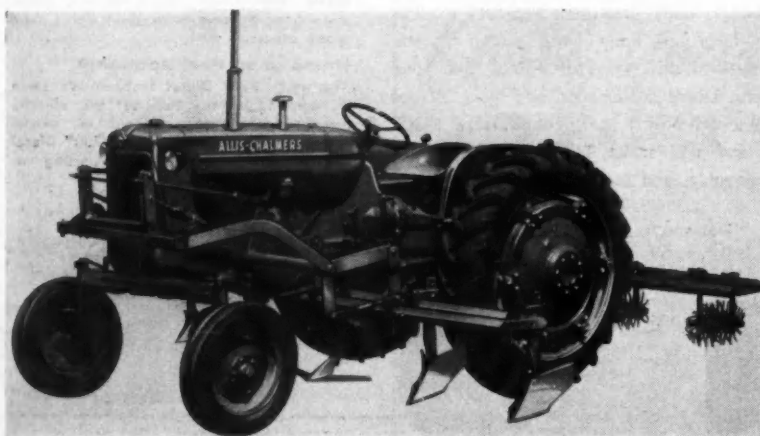
Standard models of Allis-Chalmers D Series tractors provide unusual clearance and a broad range of wheel spacings for vegetables and other row crops.

But these modern tractors are now also available in special, high-clearance models with still more ground clearance . . . in single front wheel or wide, adjustable front-axle styles. Rear wheel spacings range from 60 to 100 inches, and front axle spacings from 60 to 90 inches.

The vegetable grower can now have a D-14 or D-17 Tractor with clearance and wheel spacings to meet his specific requirements. The special models possess the same advanced features that have made the standard models the choice of thousands of progressive farmers . . . Roll-Shift adjustable front axle, Power-Shift rear wheels, Power Director, TRACTION BOOSTER system, SNAP-COUPLER hitch and POWER-CRATER engine . . . to name a few.

Yes, for the most modern vegetable tractor you have ever seen . . . at surprisingly low cost . . . visit your Allis-Chalmers dealer.

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Heavy-duty tool bars, up to 120 inches wide, permit working tall crops, bedded crops and specially spaced crops. Special hydraulic equipment gives you independent control of front and rear cultivator gangs. Shown is D-14 Tractor with high-clearance wheels and Allis-Chalmers heavy-duty vegetable cultivator.

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Answering Your QUESTIONS

Don't let your questions go unanswered. Whether large or small, send them with a four-cent stamp for early reply to Questions Editor, AMERICAN VEGETABLE GROWER, Willoughby, Ohio.

CUCUMBER HARVESTER

Where can I obtain information on a mechanical harvester for cucumbers?—*Pennsylvania.*

From Chisholm-Ryder Co., Niagara Falls, N. Y.

POTATO CANDY

I've heard of potato candy. Do you have a recipe?—*New York.*

Try this:

- 1 medium-size mashed potato (do not salt while cooking)
- 1½ lbs. confectioners sugar
- 1 tsp. vanilla
- ½ c. shredded coconut
- pinch of salt

Add sugar, vanilla, pinch of salt, and coconut to cold mashed potatoes gradually until it is a stiff consistency. Drop by tsp. on wax paper and let stand until firm. Coconut may be omitted, but adjust sugar accordingly. Also, for those who prefer color, add food coloring.

Suggestion: Add finely chopped nuts when omitting coconut.

SPRAYS FOR TOMATOES

What spray materials should I use on my tomatoes in the greenhouse?—*Maryland.*

Use malathion, 2 tablespoons of 57% emulsifiable material to each gallon of water, and zineb. Apply at about 10-day intervals.

CABBAGE VARIETIES

What yellows-resistant cabbage varieties are recommended for my area?—*Illinois.*

Resistant Golden Acre, Badger Market, Resistant Detroit, Racine Market, Greenback, Marion Market, Globe, and Badger Ball Head.

EASTERN-GROWN PEPPER SEED

TREATING pepper seed before planting with mercuric chloride is a simple way to eliminate any danger of disease and, at the same time, gives assurance that your pepper crop will start out under best conditions.

In New Jersey, chemical treatment methods have been developed that leave no doubt about disease control. Treatment may be done by the seed grower or the seed dealer. It is wise to inquire to make sure that the seed you are buying has been treated, or arrange to treat it yourself.

State recommendations in New Jersey provide that pepper seed be treated with mercuric chloride followed by a dusting with thiran (Ara-san). Pepper seed produced in New Jersey is sold for fresh market plants and also for production of plants in the South to be used by growers contracting with processing plants.

Seed treatment is a widely recognized and long-used practice to insure 100% stands and best possible yields.

AMERICAN VEGETABLE GROWER

If we continue to limit soil nutrition to N-P-K . . .

Can we expect improved vegetable quality and yields?

GROWERS and packers now agree that something more than nitrogen, phosphorous and potash is needed to achieve bonus yields and a higher percentage of top grade vegetables.

They have learned that other minerals and trace elements are vital to successful fruit and vegetable growing.

Magnesium for example. Truck-crop failures or losses due to magnesium deficiency have been reported in 90% of the vegetable-growing areas in the eastern half of the U.S. Similar troubles are showing up on much western vegetable growing land.

But it's more than a matter of losses. Magnesium also works to improve quality. Experiments with a variety of vegetable crops show that applications of magnesium can improve sugar content, tenderness, vitamin C content, and color of crop.

HOW TO DETECT

Magnesium shortages in vegetables follow a familiar . . . and costly . . . pattern. The deficiencies aren't visible until the damage is done. In fact, by the time deficiency symp-

toms appear, you've undoubtedly been paying a heavy penalty in reduced yields and quality for several years.

First visible evidence of trouble is when leaves show yellow areas between the green leaf veins. On some crops, cabbage for instance, a purplish color on the underside of leaves or, in more serious cases, dead areas appear between the veins.

Here's the difference magnesium can make with other crops:

Tomatoes: New York Experiment Station results show magnesium-deficient plants yielded 25% less than normal plants, graded "C" on color, were far lower in ascorbic acid and sugars.

Peas: University of Wisconsin Experiment Station results show tenderness in peas is greatly improved by application of sulphate of magnesia. And yields were increased by use of the sulphate form of potash.

Lima beans: Delaware field trials indicated that sulphate of potash plus sulphate of magnesia applications increased yields by 152.2% over treatment with muriate of potash or potassium sulphate alone.

Potatoes: Soil in virtually all potato-growing areas is seriously short of magnesium. But before you can notice the shortage, it must be severe enough to practically kill the vines. Visible signs usually mean that yields and quality have suffered for several seasons.

THE ANSWER

There are several ways to treat magnesium deficiencies. But the most practical and effective is the use of a *water-soluble magnesium* such as double sulphate of potash-magnesia in a mixed fertilizer. International Minerals and Chemical Corp. markets this magnesium under the trade name Sul-Po-Mag*. It offers the formula flexibility needed to match the requirements of specific crops. Sul-Po-Mag can also be used for direct application where only potash and magnesium fertilization is indicated.

SUL-PO-MAG ADVANTAGES

Sul-Po-Mag is granular in form. It stays in the soil longer . . . feeds crops longer, too. The result is sustained growth over the season to help produce top yields.

In addition to increased yields, Sul-Po-Mag can materially improve vegetable quality, as indicated in the lima bean tests mentioned above where Sul-Po-Mag was the source of the sulphate of potash and the sulphate of magnesia.

Want full details on how Sul-Po-Mag can help boost vegetable quality and yields for you? Write for our free magnesium booklet which discusses Sul-Po-Mag and its application to specific crops. Address International Minerals and Chemical Corp., Potash Division, Administrative Center, Skokie, Ill.

*Trademark, International Minerals & Chemical Corporation.

Creators of Living Minerals



POTASH DIVISION

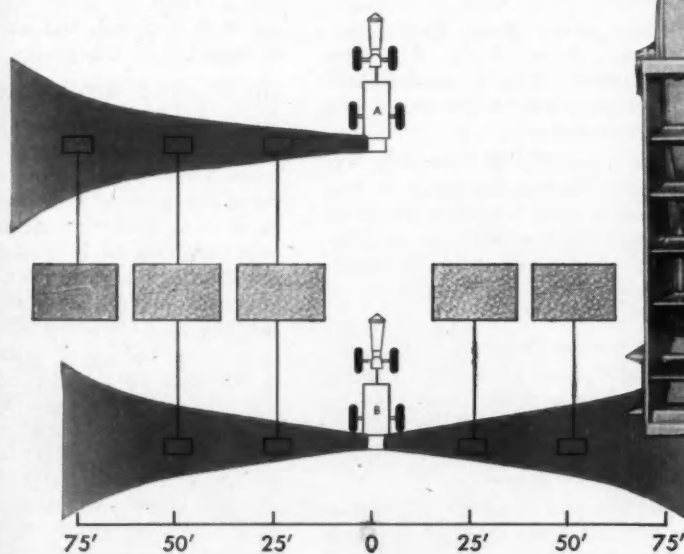
INTERNATIONAL MINERALS & CHEMICAL CORPORATION

Administrative Center: Skokie, Illinois

Myers® two-way row

MYERS "two-way" method of spraying gives you consistent spray coverage the entire way . . . even at 100 foot swath. Repeated field tests prove that spray patterns beyond 50 feet lose most of their effectiveness. Air velocity drops rapidly after 50 feet and spray patterns become difficult to control. (See sprayer A in illustration.)

Myers solves this problem by placing the sprayer in the middle of the pattern. (Sprayer B). You get an even distribution from both sides of the sprayer with full coverage and penetration at both ends of the 100 foot swath. Special valve control also enables you to use just one side spraying for shorter swaths.



Two-way air sprayers give you . . .

25% more coverage

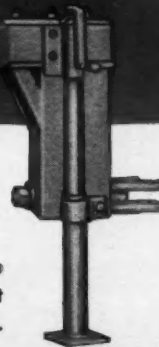
*for faster more
efficient spraying*



Myers offers you five different two-way models. One is designed for your spraying requirements.

See for yourself

Ask your Myers dealer to show you the full coverage protection you get with a Myers "two-way" air sprayer.

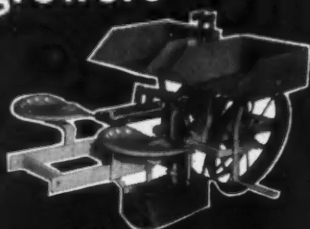


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The F. E. Myers & Bro. Co.
ASHLAND, OHIO KITCHENER, ONTARIO



vegetable
growers



Powell "42"
TRANSPLANTER



Let us demonstrate IN ACTION the many new advanced features of the MODEL "42" including

- the accurate, uniform METER-RITE valve.
- the adjustable-flange packer wheels
- the plant pick-up tray and dual plant hands

GET OUR FREE LITERATURE
AND THE NAME OF
OUR DISTRIBUTOR NEAREST YOU

Powell MANUFACTURING COMPANY, INC.
WILSON, NORTH CAROLINA

TOMATO FOR WARM AREAS

New heat resistant variety
successful for Texas growers

EAST TEXAS tomato growers have long felt the need for a variety that would set a large crop of fruit in the warm weather that is prevalent from May to September. Hotset, a new commercial variety with strong resistance to heat sterility, is producing just what the growers have been looking for. It was developed by Texas Agricultural Experiment Station after 10 years of experimenting.

The new variety sets abundant fruit at temperatures of 59° to 74° F. at night and 70° to 93° F. during the day. It is prolific, with red globe fruits averaging 3 to 8 ounces in weight, usually with a dark red interior color and delicious flavor.

Green fruits have darker green tops and the 3- to 6-foot-long vines are large, open, and indeterminate. Green fruits are resistant to sunburning, puffing, and catfacing, and flowers are strongly resistant to heat sterility. The plants commonly set abundant fruits when temperatures are 5 to 8 degrees too warm for the common Rutgers and Homestead varieties.

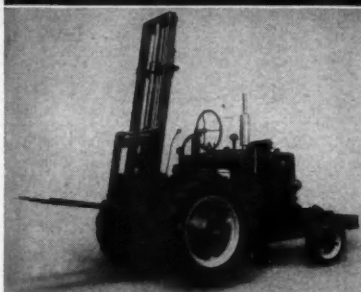
Seed Planted May 1

Hotset tomato is grown commercially by planting the seed about May 1 for a marketing crop in August. Another planting about July 1 provides an early fall crop in October. In contrast, the old green-wrap varieties usually fail to set a good crop, if any, in summer and do not mature their fall crop before November when frosts often occur.

Sun-ripened Hotset tomato fruits have a moderately high concentration of vitamin C. Researchers are now trying to increase resistance to fruit cracking, blossom rot, and fusarium wilt. It has been found that fruit size can be increased and blossom rot can be prevented by proper irrigation and adequate lime fertilization.

Foundation seed of Hotset tomato was sent to commercial seed companies in December, 1957. Sources of supply include Reed Lehman Co., Seedsmen, Box 9154, San Antonio, Texas and Dessert Seed Co., Box 181, El Centro, Calif. A small quantity of foundation seed is available at the Tomato Disease Laboratory, Jacksonville, Texas.—P. A. Young, In Charge Tomato Disease Laboratory.

Build Your Own FORK LIFT



Use your own tractor or an inexpensive used one and save 1/2 to 3/4 the cost of a complete unit. Makes ideal unit for handling fruit, vegetables, etc. in the field or storage.

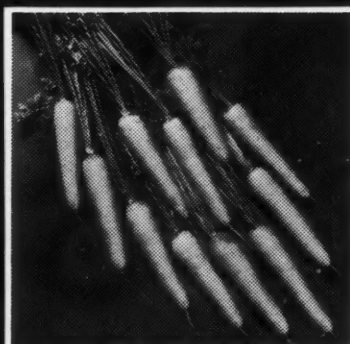
- 2000 lb. capacity
- Two lifting heights—84" or 126"
- Fits I.H. Model A, Super A, 100, 130, and 140
- Easily installed in a few hours

We furnish complete package including materials for reversing controls and full installation instructions. Write or phone for further details and nearest dealer's name.

PIPER & PAINE

Dept. FV,

Nunda, N.Y.



GILL'S Special Nantes CARROTS

Ideal for Cellophane Packages

Special Nantes are exceptionally tender and sweet with a very small core. Slender, bright orange-red roots 6 to 8 inches long. Desirable for both market and home gardens. Fine re-selected strain grown from our own stock seed. Postpaid: Pkt. 15c; oz. 40c; 1/4 lb. 90c; lb. \$2.00.

GILL'S OREGON CHANTENAY. Leader as a market carrot. Postpaid: Pkt. 15c; oz. 35c; 1/4 lb. 85c; lb. \$2.00.

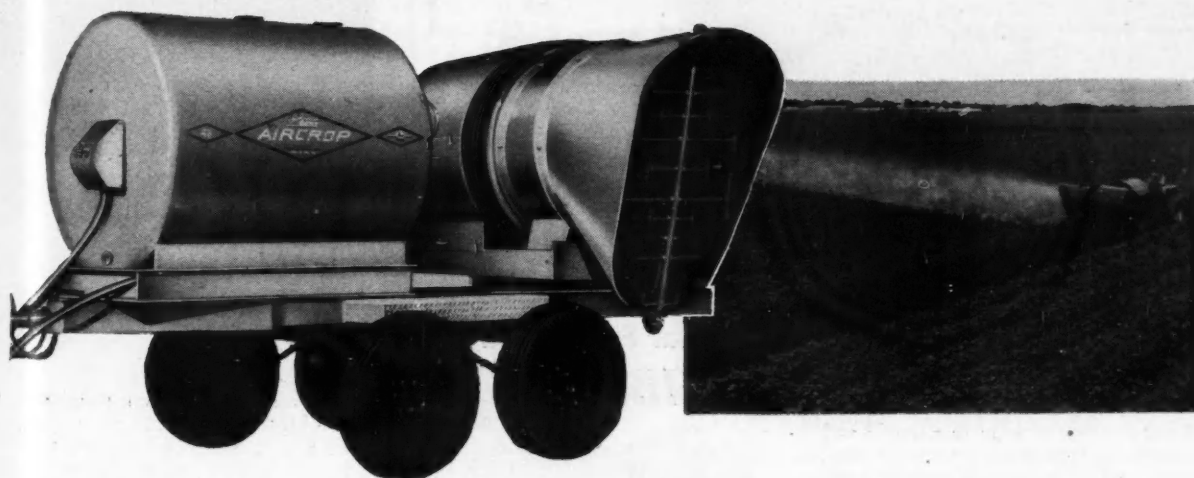
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GILL BROS. SEED CO.

Dept. AVG, Montavilla St., Portland 16, Ore.

Covers up to 250 Acres Per Day!

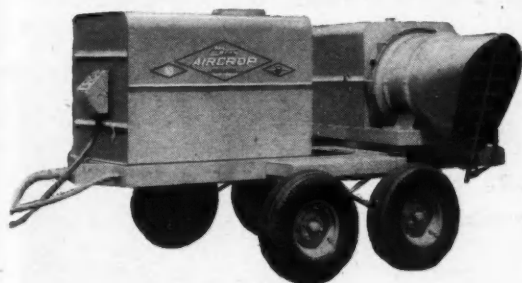
NEW *John* **BEAN** 40-RC Complete Row Crop Sprayer



Get top-rated performance and big air and tank capacities for large acreage spraying with John Bean's new 40-RC air crop sprayer. A complete spraying unit, the Model 40-RC sprays a 90 to 100 foot swath with thorough, even coverage throughout. You can spray dilute, semi-concentrate or concentrates up to 250 acres per day! John Bean's straight-through air delivery design and powerful 40-inch axial flow fan gives highest air volume at medium velocity for faster, "on time" spraying with fewer wheel rows through your crops. Simplified, easy-to-

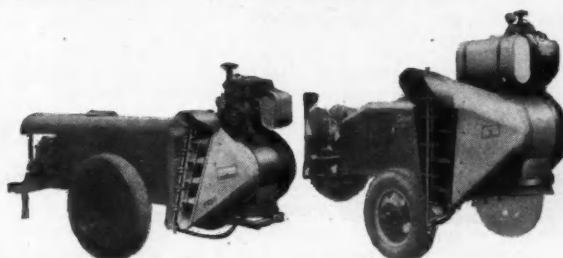
reach, hydraulic controls rotate the discharge head 210° to take full advantage of wind conditions. Movable deflectors for up and down air direction assure uniform spraying regardless of terrain. Compact control unit — right at the tractor driver's finger tips — allows positive adjustment of spray discharge and engine speed plus an instant check of operating instruments. Save time by fewer water hauling trips with the 40-RC's hydraulic jet-agitated, 500 gallon tank protected by exclusive "Bean Bond" coating.

There's a John BEAN AIRCROP for every grower



NEW MODEL 30-RC a complete spraying unit for medium to large acreage

Designed especially for the medium acreage grower. Spraying capacity rated at up to 165 acres per 8 hour day; incorporates many of the performance features of the Model 40-RC.



15-RC Attachment

8-RC Attachment

ECONOMICAL AIRCROP ATTACHMENTS

For thorough, crop-protecting spray coverage at lowest cost, convert your high pressure sprayer into a modern, air-type unit with John Bean attachments.



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Row Crop Sprayer Catalog



Ask your John Bean Dealer for an Aircrop Demonstration — Today!

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LANSING 4, MICHIGAN
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Division of Food Machinery and Chemical Corporation

**Spray up to 20 Acres per hour
with 6X and 8X Concentrations
without danger of Foliage Burn!**



**The Buffalo Turbine Model CPS Axial Flow Sprayer
MAKES IT POSSIBLE**

Concentrate spraying increases profits and decreases maintenance costs. Buffalo Turbine users report cuts in spraying costs of over 50%. It is the answer to increased competition in the vegetable business.

The MODEL CPS operates from the rear, power take-off of any two-plow tractor. The powerful Axial Flow Blower easily covers more than 20 rows, efficiently and effectively with either dust or spray—separately or both at the same time. Will handle both emulsifiable and wettable powder insecticides and fungicides.

Buffalo Turbine gives you the most for your sprayer dollar—stainless steel tanks, mechanical agitation, Turbine type Axial Flow Blower, heavy steel channel frame, completely hooded for weather protection—plus one man operation, low first cost and low maintenance cost.

Power driven models also available. *Write for complete catalog and prices.*

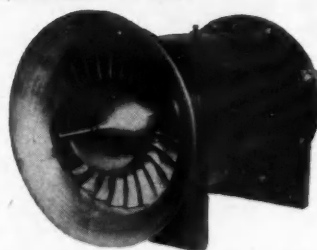


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AGRICULTURAL EQUIPMENT CO., INC.

68 Industrial St.

Gowanda, N.Y.



The heart of all Buffalo Turbine Sprayers—the exclusive Axial Flow Blower.

- Velocities from a gentle breeze to 180 M.P.H.
- 14,000 cu. ft. of air per minute.
- Turbo-Dust or Turbo-Spray separately or both at the same time.

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RIDING - WALKING
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FOR: TILLING
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ALL FARM-HOME CHORES
OVER 60 ATTACHMENTS
AVAILABLE

2 to 9 HP
with complete
gear drive
and reverse.

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LOW PRICES
EASY TERMS
Over 40 Years
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**FULLY
GUARANTEED!**

PAGE 1948 S. 81st St.
Milwaukee, Wis.



Jade Cross, first Brussels sprouts hybrid.

**ALL-AMERICA
SELECTIONS FOR 1959**

TWO new outstanding vegetable varieties, Jade Cross Brussels sprouts and Gardengreen snapbean, are All-America Selections for 1959.

Jade Cross, believed to be the first hybrid Brussels sprouts, was the highest scoring vegetable entry in seven years of AAS trials. The variety was awarded the silver medal.

Jade Cross is the earliest, most uniform, prolific, and vigorous variety of all Brussels sprouts varieties.

Gardengreen is a distinct but improved Tendergreen type recommended for home and local market use, home canning, and quick freezing. It grows vigorously to 18 or 20 inches tall, is resistant to mosaic, and tolerant to halo blight and root rot.

A non-profit organization, AAS thoroughly tests new varieties for the information of the seed industry and the benefit of growers.

Orders for seed of the new varieties should be placed early with dependable sources of supply. Seed of Jade Cross will be in short supply.



Gardengreen, new bush snapbean variety.

AMERICAN VEGETABLE GROWER

Growers
Harris S
and exp
product
and the
Seeds a
judged.

Expert
everything
ture, ex
All over
every y
1/16 O
1/2 Oz.

Here's a
medium
round a
pumpkin
year.

77 M

HARRIS SEEDS

First Choice of Expert Growers

Growers who set the pace on many markets start with Harris Seeds. They know that no matter how much skill and experience go into raising a crop, it's the superior product that brings ready sales and premium prices, and they have found that specialties offered by Harris Seeds are known as the standard by which others are judged.



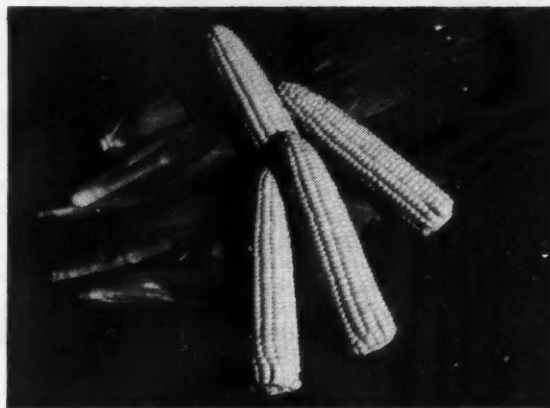
Harris' MORETON HYBRID

Expert growers agree—this early F 1 hybrid has everything—large size, tremendous yields, solid structure, excellent uniformity and the finest of quality. All over the east and mid-west, more tomato growers every year are switching to this great Harris hybrid. 1/16 Oz. \$2.00; 1/8 Oz. \$3.75; 1/4 Oz. \$7.00; 1/2 Oz. \$12.75; 1 Oz. \$24.00.



YOUNGS' BEAUTY

Here's a pumpkin that fills a long-felt need—it has medium sized fruit of ideal type for jack-o-lanterns, round and uniform with bright hard skin. If you grow pumpkins for Halloween sale, try Youngs' Beauty this year.



Harris' NORTH STAR

Grow the one best hybrid for the higher priced early market . . . North Star is bred for extra-early planting, comes up strongly even in cold ground, makes a big crop of fine, large ears with heavy dark green husks and plentiful flags. Famous for its vigor, handsome appearance and heavy yields.



Harris' FIREBALL

Our True Originator's Strain

Developed by Harris plant breeders, Fireball is the tomato to grow for extra early yields. Its fruit are good-sized and remarkably firm, round and uniform with little cracking, and they ripen quickly on the dwarf vines to a bright red color. For first crops to market and cannery, grow Harris' Fireball.

BEDDING PLANT GROWERS—Remember that Harris leads the field in the development of hybrid petunias. Build sales and profits with the husky, early-flowering plants these hybrids produce.

For full information on the many top-rated vegetables and flowers sold only by Harris Seeds, write today for our FREE Market Gardeners' and Florists' Wholesale Price List.

JOSEPH HARRIS CO., INC.

77 Moreton Farm

Rochester 11, N. Y.



E. C. Stevenson shows how Stair tomato fits into smaller can. Processors in recent years have been packing tomatoes whole in smaller cans.

NEW TOMATO FOR SMALLER CANS

PLANT breeders at Purdue University, Lafayette, Ind., have come up with a new tomato variety which is ideal for packing whole in smaller cans of the No. 303 size.

The variety is named Stair, after the late E. C. Stair, Purdue horticulturist who made the original crosses and selections. Stair's work was carried on by E. C. Stevenson, head of Purdue's horticulture department, and M. L. Tones, department of botany and plant pathology.

Smooth and uniform in size, Stair tomatoes are more resistant to crack-

ing than present varieties. They are resistant to fusarium wilt, and yields are comparable with better varieties now grown. Seed will be available to growers in 1960.

LABELING SEED

CHEMICAL and other beneficial treatments are now included among the legal labeling requirements for all seeds offered for sale in New York State.

Dr. Willard Crosier, seed analyst at New York State Experiment Station, Geneva, reports that seed which has been treated with a fungicide, insecticide, growth-promoting hormone, or a bird repellent, or has been scarified to reduce the hard seed

content must carry a tag or label with this information. If seed has received an application of a substance such as a mercury compound harmful to humans or other vertebrates, adequate warning must be given, says Crosier.

Research at the station not only finds what chemicals and registered formulations make good seed protectants, but also devises ways to test their presence on seeds.

PLASTIC GREENHOUSE PLANS

Construction details for Cornell University plastic panel greenhouse, names of suppliers of materials, films, and adhesives for plastics, and reprints of current articles on plastic greenhouses are available from **AMERICAN VEGETABLE GROWER**, Willoughby, Ohio, for 50 cents a set.

LABELS for CRATES

BASKETS • HAMPERS • LUGS • CANS

BRANDAU CRAIG DICKERSON CO.

304-306 TENTH AVE. SO. NASHVILLE 3, TENNESSEE

WHAT WOULD YOU DO...

IF SUDDENLY YOUR GREENHOUSE HEATING EQUIPMENT FAILED?

Perhaps it will never happen . . . but why take chances? Now . . . for mere pennies a week you can insure your crops against emergency freeze-outs with the handy HY-LO . . . lowest-priced, cleanest-burning portable oil heater on the market! Produces up to 140,000 B.T.U.'s per hour. Gives dependable emergency or supplementary heat . . . where and when you need it. Numerous other uses plus many exclusive features make HY-LO one of your best greenhouse investments. Act now . . . before you have a heating problem!

Dealer inquiries are invited.

STANDARD MODEL	JUNIOR MODEL
for high overheads	for low greenhouses
\$21.50	\$23.50

These Prices For 4 Or More of One Model

EXCLUSIVE DISTRIBUTOR

ALEC HENDERSON, INC.
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NOW PREVENT FROST DAMAGE

with the

FMC

Tropic Breeze

WIND MACHINE

ACT NOW!

Anticipated orders will place heavy demand on factory production. Your immediate action is urged to insure delivery and installation before frost periods begin.



Putting Ideas to Work



**FOOD MACHINERY AND CHEMICAL
CORPORATION
Florida Division**

General Sales Office—LAKELAND, FLORIDA
Plants: LAKELAND, FLORIDA—WOODSTOCK, VIRGINIA

FAST Tropic Breeze Wind Machines whirl into action at the flip of a switch. Provide wide area frost protection in 3 to 5 minutes. One man can supervise entire operation. No need of stand-by crews or heater refueling worries.

PROVED Thousands of Tropic Breeze Wind Machines in use by growers and nurseries in the West plus conclusive proof by university experimental stations are testimony to effective frost protection by these machines.

LOW COST Developed by a company with over 19 years of continuous experience in the field of frost protection, Tropic Breeze Wind Machines provide superior positive results for only pennies per acre per hour of operation.

CLEAN Tropic Breeze Wind Machines eliminate clutter. No smoke or grime problems to contend with. Machines occupy minimum space, fuel tanks can be buried out of the way of farm personnel and machines.

FREE ORCHARD ANALYSIS Trained *fmc* factory personnel will make a free analysis of your orchard, farm or nursery, study terrain, wind drift, planting closeness and height of trees and make specific recommendations without cost or obligation.

**FOOD MACHINERY AND CHEMICAL CORPORATION,
FLORIDA DIVISION**

Fairway Avenue, Lakeland, Florida

Please send me sales literature on Tropic Breeze
Wind Machines.

Please have Sales Engineer contact me,

Company _____

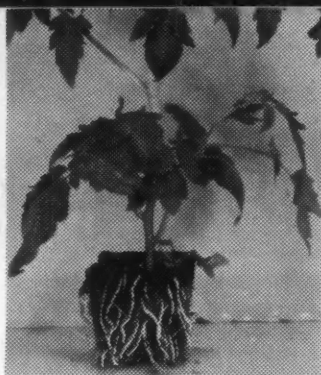
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ONE TIME PEAT POTS



STURDY SHAPE HOLDING POTS

Made from finest horticultural Peat Moss and fertilized to compensate for decomposition of pot.

PRICES PREPAID on 150 Pounds or more anyplace within the U.S.A.

4" PACKED 500 to 32 Pound Case		
	Standard	Azalea
500 to 2,000	\$29.25 M	\$28.75 M
2,500 to 9,500	26.75 M	26.25 M
10,000 and over	25.25 M	24.75 M
3" Square PACKED 1,000 to 37 Pound Case or Round Packed 1,000 to 25 Pound Case.		
	Square	Round
1,000 to 9,000	\$18.25 M	\$13.25 M
10,000 to 49,000	17.00 M	12.25 M
50,000 and over	15.75 M	11.00 M
2 1/4" Square PACKED 2,000 to 36 Pound Case or Round Packed 2,000 to 29 Pound Case.		
	Square	Round
2,000 to 18,000	\$11.00 M	\$ 7.25 M
20,000 to 74,000	10.25 M	6.75 M
76,000 and over	9.50 M	6.25 M
1 3/4" Square—PACKED 2,500 to 28 Pound Case		
2,500 to 17,500		\$ 7.00 M
20,000 to 70,000		6.50 M
72,500 and over		6.00 M

Visqueen Polyethylene Film

A few uses are: Mulching plants; greenhouses; cold frames; fumigating soil; covers for silage pits, hay stacks, machinery, equipment, supplies; enclose work areas; vapor and moisture seal in building construction and cement work; flashing.

	Roll
3'x250'	.0015 Gauge Black Only..... \$ 4.01
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3'x100'	.004 Gauge Clear.....	\$ 4.28
10 1/2'x100'	.004 Gauge Black and Clear.....	14.97
16 1/2'x100'	.004 Gauge Black and Clear.....	23.53
32'x100'	.004 Gauge Black and Clear.....	45.63
10'x300'	.006 Gauge Black Only.....	5.35
10 1/2'x100'	.006 Gauge Clear.....	22.47
16 1/2'x100'	.006 Gauge Clear.....	35.31
32'x100'	.006 Gauge Black and Clear.....	68.48

Write for prices on more than 10M sq. ft. and additional widths

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THE DAO CORPORATION Dept. A P.O.Box 659 Terre Haute, Indiana

POLYETHYLENE PLASTIC FILM

Natural Color for { GREENHOUSES
COLD FRAMES
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MINIMUM PRICES — LARGE & SMALL ORDERS

Write us for free literature & price list.

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OVER... and OVER... and OVER...

It's MINNESOTA CERTIFIED SEED POTATOES

NORTHERN GROWN BY GROWERS WITH INTEGRITY . . . KNOW-HOW AND SUPERVISION!

Write for Your Complete List of Minnesota Certified Growers

IT'S FREE!

MINNESOTA DEPT. AGRICULTURE SEED POTATO CERTIFICATION

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THE CENTER OF CERTIFIED SEED Production

POTATOES

FAR ABOVE PAR!

CALENDAR OF COMING MEETINGS AND EXHIBITS

Jan. 6-7—Indiana State Vegetable Growers Association annual convention, Purdue University, West Lafayette, Ind.—H. T. Erickson, Sec'y-Treas., Purdue University, Lafayette.

Jan. 7-9—Northeastern Weed Control Conference 13th annual meeting, Hotel New Yorker, New York City.—E. R. Marshall, Public Relations Committee Chairman, Union Carbide Research Farm, Clayton, N. C.

Jan. 8-9—Maryland State Horticultural Society 61st annual meeting, Hotel Alexander, Hagerstown, Md.—A. F. Vierheller, Sec'y.

Jan. 12-13—Ohio Pesticide Institute annual winter meeting, Neil House, Columbus.—J. D. Wilson, Sec'y, Wooster.

Jan. 14-15—Connecticut Vegetable Growers Association 46th annual meeting, Hotel Bond, Hartford.—E. C. Minnum, Ext. Veg. Spec., U. of Connecticut, Storrs.

Jan. 15-16—Annual Fruit and Vegetable Short Course, New Mexico A & M College, State College.—W. J. Wiltbank, Ext. Hort., State College.

Jan. 19-20—Michigan Processors Raw Products Conference annual meeting, Kellogg Center, Michigan State University, East Lansing.—S. K. Ries, Assoc. Prof. of Hort., M.S.U.

Jan. 20-23—Joint winter meeting and trade show, New York State Vegetable Growers' Empire State Potato Club, New York State Horticultural Society, Western New York Apple Growers Assn., New York State Agricultural Society, Onondaga County War Memorial, Syracuse, N.Y.—Wm. B. Giddings, Sec'y, Baldwinsville.

Jan. 21-23—Southern Weed conference, Shreveport, La.

Jan. 22-23—Southern Farm Forum 12th annual meeting, New Orleans.—Charles Frank, Jr., Chairman.

Jan. 26-31—New Jersey Farmers Week, Trenton.

Jan. 28—Vegetable Growers Association of New Jersey, Inc., meeting and dinner, Trenton.—C. H. Nissley, Sec'y, New Brunswick.

Feb. 2-4—Ohio Vegetable and Potato Growers Association, 44th annual meeting, Commodore Perry Hotel, Toledo.—E. C. Wittmeyer, Sec'y, Hort. Bldg., Ohio State U., Columbus 10.

Feb. 2-5—United Fresh Fruit and Vegetable Assn., Statler Hotel, Dallas, Texas.

Feb. 3-5—New Hampshire Horticultural Society 65th annual meeting, Highway Hotel, Concord. Feb. 3—Fruit Growers' Day; Feb. 4—Vegetable Growers' Day; Feb. 5—Potato Growers' Day.—E. J. Rasmussen, Sec'y, Durham.

Feb. 4-6—Ohio State Horticultural Society winter meeting, Commodore Perry Hotel, Toledo.—C. W. Ellenwood, Sec'y, Wooster.

Feb. 5-7—West Virginia State Horticultural Society 66th annual convention, Martinsburg.—Carroll R. Miller, Sec'y, Martinsburg.

Feb. 8-14—4th Annual Maine Potato Week.

Feb. 9-11—Canners' and Fieldmen's Conference and Processors' School, Deshler-Hilton Hotel, Columbus, Ohio.

Feb. 11—California Canners and Growers annual meeting, San Francisco, Calif.—R. K. Julien, Sec'y-Treas., 260 California St., San Francisco.

Feb. 17-19—Northwest Perishable Loss Prevention Short Course, Wenatchee-Yakima, Wash.

Feb. 23-24—Southeastern Pecan Growers' Association 52nd annual convention, Mobile, Ala.—Henry Jennings, Sec'y, Dawson, Ga.

BOOK REVIEW

Farm Management by Lynn S. Robertson, Assistant Chief of Agricultural Economics, Purdue University, Lafayette, Ind. \$4.40. J. B. Lippincott Company, publisher.

Here is a book that treats the farm as a business unit, with information that will help in making management decisions. Of special interest to growers will be the sections on farm expenditures, financing, marketing, and planning the farm business. The author also deals with the problems growers face in adjusting their business to new technologies and to changes in economic conditions.

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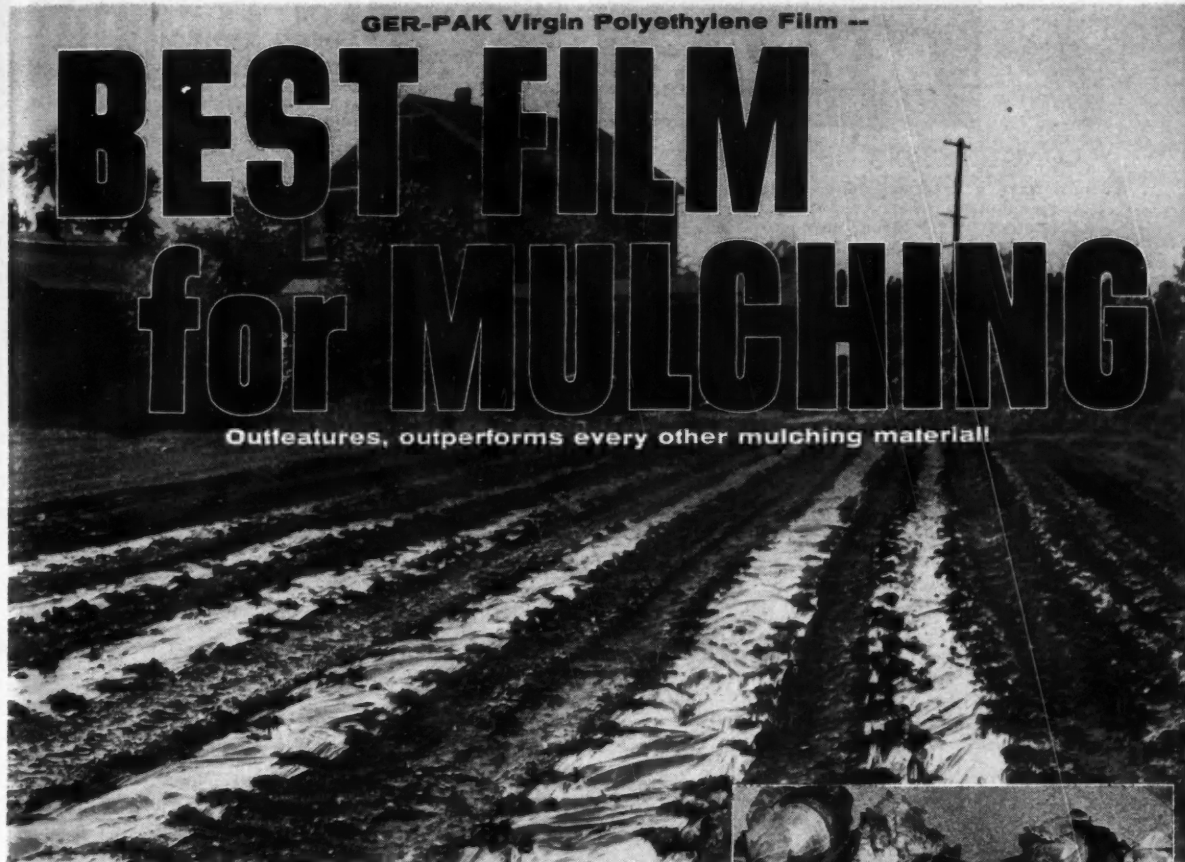
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GROWER

GER-PAK Virgin Polyethylene Film --

BEST FILM for MULCHING

Outfeatures, outperforms every other mulching material!



Increases Yield • Prevents Weed Growth
Minimizes Rotting • Matures Crops Earlier

Answer to the market grower's need for an all-around outstanding mulching material! That's GER-PAK *Weather-resistant Black Mulch Film*! Yields rise significantly, crops improve in size and quality, rotting and weeds are all but eliminated. What's more, crops mature earlier for top market value.

And GER-PAK Film is lightweight for easy handling yet tough enough to re-use a second growing season! Inert to soil and chemicals, too. Sunlight—and weather-resistant black mulch film comes in convenient 3 and 4 foot widths up to 1000 feet long.

ASK YOUR DEALER about versatile GER-PAK Film for mulching and many other agricultural uses!

The Short Way to Say Superior Polyethylene Film

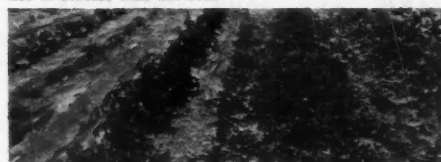


Virgin Polyethylene Film

Gering Products, Inc., Kenilworth, N. J.



SIGNIFICANT YIELD INCREASES result whenever GER-PAK Mulch Film is used. Fruits and vegetables are generally of better quality and rotting is minimized because the fruit is not in contact with the soil.



COMPARISON OF CROPS with and without GER-PAK Film shows soil around bare area caked and weed-choked. Soil under GER-PAK is soft, moist and weed-free, resulting in improved crop quality.



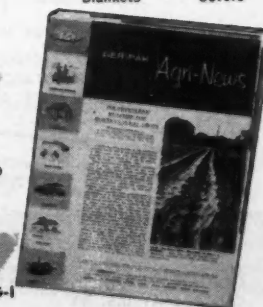
Silos

Greenhouses

Fumigation
Blankets

Equipment
Covers

FREE
GER-PAK Agri-News
Bulletin Service
on mulching
written by noted
authority on vegetable
crop development



WRITE Gering Agricultural Dept., VG-1

Good News in Plastic Films!

DU PONT

MYLAR

POLYESTER FILM

LONG LASTING—STRONG—ECONOMICAL

1. We now have a practical, long lasting plastic film for greenhouse use. A test greenhouse, constructed by the DuPont Co. at Wilmington, Delaware, has stood up for three years and is still standing.
2. The strongest plastic film known today. Weatherable "Mylar" Type W is the strongest plastic film known today, having 9 times the strength of Polyethylene. It has a tensile strength approximately one-third the strength of machine steel. Will not shrink or stretch—will withstand -60° to 200° F. without injury. Highly resistant to breakage—from hail, stones, etc. Clear as glass—will not attract dust. Easy to install—resists tearing from the edges. It's lightweight and flexible without being flimsy and difficult to secure.
3. You can get several times more greenhouse space than with glass for the same cost.



Typical Plastic Greenhouses

Here is a low cost and practical structure for covering large areas. 2 x 4 structure, 10 ft. bar spacing. Over 5,000,000 sq. ft. of this type house in use in California alone. Cost (*) for 1000 sq. ft.: about 89c per sq. ft.; for



Cold Frames

50,000 sq. ft.: about 48c per sq. ft.

A MYLAR covered cold frame will stand up for many years of intermittent use under rough weather and frequent handling.

*Includes all material: for structures, MYLAR covering and all labor. Material and labor costs used, best available averages for the U.S. Includes fans, for ventilating. Heat and benches not included.

Write for our Plastic Kit: Contains greenhouse plans, circulars and samples of MYLAR.

ROLL SPECIFICATIONS

100-ft. roll			1000-ft. roll		
Width	Wt. Per Roll	Sq. Ft. Per Roll	Width	Wt. Per Roll	Sq. Ft. Per Roll
36-in.	13 lbs.	300	36-in.	112 lbs.	3000
42-in.	15 lbs.	350	42-in.	130 lbs.	3500
48-in.	17 lbs.	400	48-in.	150 lbs.	4000

PRICES PER SQUARE FOOT

100-ft. rolls	1000-ft. rolls
300-2,999 sq. ft. ... \$0.17 1/2	—
3,000-23,999 sq. ft. ... 16 1/2	\$0.16
24,000 sq. ft. & up ... 16	15 1/2
3% discount for cash with order; otherwise net. Minimum order, 1 roll. F.O.B. West Chicago.	

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TELEPHONE 299

TAKE OVER YOUR AREA—

Agents, Dealers, Farmers, Make \$125 up weekly selling nationally advertised Campbell's Gro-Green Liquid Fertilizer Concentrates. No investment. Everything free.

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GARDEN SEEDS

We carry the new and remarkable creations of the New Hampshire Experiment Station—the Orange Buttercup and Baby Butternut squashes, the Golden Midget Watermelon, the blight proof Sarecrop and high Vitamin C Doublerich tomatoes, heirloom beans, the improved arch resistant Highmore cucumber, the Nectar Muskmelon, an early Honeydew, Sweet Corn that is really good to eat and a full line of high quality seeds for your garden. Also the James Macfarlane Lilac, dwarf apple trees, the fall bearing Durham raspberry. Send for catalog.

Billy Hepler Seed Co. 76 Madbury Road, Durham, New Hampshire

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*IRRIGATES TRANSPLANTS — ON THE SPOT! —

With Exclusive Automatic Flo-Check Water Valve with "Magic Air Control"

- * SETS MORE PLANTS PER HOUR
- * SETS THEM 100% PERFECT TOBACCO, SWEET POTATOES, LETTUCE, STRAWBERRIES, ETC.



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Dealer Inquiries Invited

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CENTRAL AT U.S. 31 HOLLAND, MICH.



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- POSITIVE ACTION NEOPRENE GRIPPERS
- QUICK-CHANGE SPACING
- BRONZE OILITE MAIN BEARINGS
- ADJUSTABLE PLANT TRAYS
- TRACTOR MOUNTED OR DRAWN MODELS

STATE NEWS

(Continued from page 16)

Available in 1959

PENNSYLVANIA — Pennlewis, a new hybrid sweet corn for roadside markets and home gardens, will be available in 1959. The corn was named in honor of the late M. T. Lewis, vegetable breeding researcher of Pennsylvania State University who first noted the quality of this sweet corn.

Pennlewis, is a yellow sweet corn, which matures in the late Carmelcross season about four days before Golden Cross Bantam. It has excellent resistance to bacterial wilt and resists dry weather.

Imperial Valley Vegetables Thrive

CALIFORNIA — Winter is the biggest season for farmers of the 400,000 acres in the irrigated and sun-drenched Imperial Valley of southernmost California. Crop diversification is credited with keeping these vegetable growers in the chips as well as circumventing insect troubles and regulation difficulties.

Asparagus was harvested for eastern markets in December. Carrots, a \$3 million crop in the valley, were planted this year mostly around Holtville. The harvest will reach its peak in February, coincident with the annual Holtville Carrot Carnival. Cabbage growers predict that they will have more than 1000 carloads rolling to market between January and April. Lettuce was a lucrative crop last year, returning about \$16.3 million. This has resulted in a boost in lettuce acreage from 32,000 to 36,000 acres. The peak of the lettuce harvest came early this month.

Other crops planted for harvesting during the winter months includes garlic, onions, broccoli, tomatoes, and romaine. Many growers also will harvest melons, squash, cucumbers, and zucchini.

Entirely new canner-grower contracts for the 1959 season are being planned by the California Tomato Growers Association. During the past season, prices slumped badly as a result of the canneries contracting for too many early tomatoes, so that there were 12,000 acres of early tomatoes over and above those under contract.

The new contract will require that a canner take delivery of a high percentage of the acceptable tomatoes for which he has contracted.

NEW HORTICULTURE POSITION

Dr. Clyde C. Singletary is the new specialist in vegetable crops in the Texas Agricultural Extension Service. This is a new position, replacing one of the former general horticulturist positions in the extension service. Dr. Singletary was on the horticultural staffs in Kansas and Kentucky prior to his Texas appointment. He is stationed at College Station, Texas, and will work with associate specialists located in other areas of the state.—H. C. Mohr, Dept. of Hort., Stillwater.

Agricultural Leader Dies

FLORIDA — Dr. Harold Mowry, 64, former director of the University of Florida Agricultural Experiment Station and more recently consulting director to the Minister of Agriculture and chief of the university's mission to Costa Rica, died last November in Gainesville.

A native of Valley Falls, Kans., Dr. Mowry came to Florida in 1916. Acting with aggression through the succeeding years he took the lead in developing horticultural research until on November 1, 1943, he was made director of the

(Continued on page 37)

AMERICAN VEGETABLE GROWER



Growers Who Use

Jiffy-Pots
MADE OF PEAT

Will gain

EARLIER PRODUCTION

Roots grow right through Jiffy-Pot walls—you plant into the field "pot and all". Young plants suffer no transplant shock, become quickly established, start to produce three weeks earlier.

GREATER YIELDS

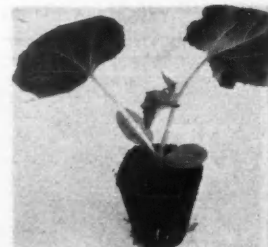
Controlled field trials in Northern Illinois of Tomatoes and Cucumbers have shown that Jiffy-Potted plants have outyielded bare root or field-seeded plants, in some cases by substantial margins. Similar reports have been received from commercial growers in many other sections of the country—not only in regards to Tomatoes and Cucumbers, but also Melons, Peppers, Egg-plants and other vegetables. Send for a detailed report.

MORE UNIFORM CROPS

With Jiffies the crop is increased and evened out—all the feeding roots are saved, ready to go to work an hour after plants are in the ground. Jiffy-Pots eliminate any replanting due to poor germination of direct-seeded vegetables or to loss of tender seedlings from unseasonal cold spells—reduce field hazards such as insects or weeds because Jiffy-Potted plants are larger when set out—permit earlier cultivating without danger to the plants.



TOMATOES



CUCUMBERS



PEPPERS

GREATER PROFITS !!!



SEND FOR
FREE
SAMPLES

ROUND SHORTIES

No. 330. NEW! 3-in. Shorty

	Per 1000
2 1/2 ins. deep.	
1500 to 9000 (1500, \$19.50).....	\$13.00
10,500 to 49,500	12.00
51,000 up	10.75

Sold in cases of 1500, 33 lbs. per case.
Minimum order 1500.

No. 335. NEW! 3 1/2-in. Shorty

	Per 1000
3 ins. deep.	
1000 to 6000	\$16.25
7000 to 29,000	17.00
30,000 up	15.25

Sold in cases of 1000, 35 lbs. per case.
Minimum order 1000.

ROUND STANDARD

No. 115. NEW! 1 1/2-in. Round

	Per 1000
1 1/2 ins. deep.	
3000 to 16,000 (3000, \$17.70).....	\$5.90
21,000 to 72,000	5.40
75,000 up	4.90

Sold in cases of 3000, 18 lbs. per case.
Minimum order 3000.

No. 122. 2 1/4-in. Round

	Per 1000
2 1/4 ins. deep.	
3000 to 16,000 (3000, \$21.75).....	\$7.25
21,000 to 72,000	6.75
75,000 up	6.25

Sold in cases of 3000, 35 lbs. per case.
Minimum order 3000.

No. 130. 3-in. Round

	Per 1000
3 ins. deep.	
1500 to 9000 (1500, \$19.88).....	\$13.25
10,500 to 49,500	12.25
51,000 up	11.00

Sold in cases of 1500, 35 lbs. per case.
Minimum order 1500.

SQUARE

No. 222. NEW! 2 1/4-in. Square

	Per 1000
2 1/4 ins. deep.	
2500 to 17,500 (2500, \$18.75).....	\$7.50
20,000 to 72,500	7.00
75,000 up	6.50

Sold in cases of 2500, 35 lbs. per case.
Minimum order 2500.

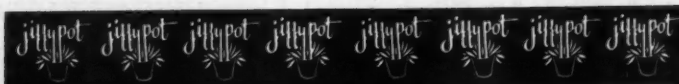
No. 230. NEW! 3-in. Square

	Per 1000
3 ins. deep. Available Feb. 1.	
1000 to 9000	\$14.50
10,000 to 49,000	13.25
50,000 up	12.00

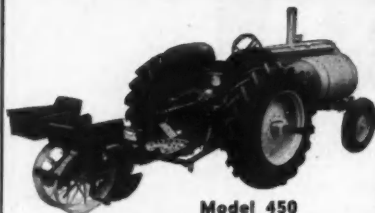
Sold in cases of 1000, 35 lbs. per case.
Minimum order 1000.

PRICES PREPAID on 150 lbs. or More—Prompt Shipment from 8 Different Shipping Points. Prices NET. PREPAID in lots of 150 lbs. or more anywhere in the continental United States excluding Alaska. Otherwise F.O.B. West Chicago; Bayonne, N.J.; Allentown, Pa.; Toledo, Ohio; Houston, Tex.; Los Angeles, San Francisco, Calif.; Portland, Ore.

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West Chicago, Ill. Ph. 299



ELLIS AUTOMATIC TRANSPLANTERS



Model 450

- **SINGLE AND TWO-ROW MOUNTED**
Noted for their unmatched accuracy and speed in carefully handling plants. Every plant set in a straight, upright position.
- **INCREASED YIELD**
Growers report substantial increase in yield as a result of the quick even start.
- **PULL TYPE AUTOMATICS**
With hydraulic lift. Single, Two and Four Row models.
- **CONVENTIONAL TRANSPLANTERS**
Single row tractor mounted. Single and two-row Pull Type.

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SHUR-RANE®
IRRIGATION SYSTEM
because he wanted:
• Economy • Dependability
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You want the same!

75th ANNIVERSARY

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FOOD MACHINERY
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CORPORATION

Putting Ideas to Work

**John
Bean**
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Ask about our
John Bean SPRAYERS

SHUR-RANE, Department AVG-1
FOOD MACHINERY & CHEMICAL CORP.

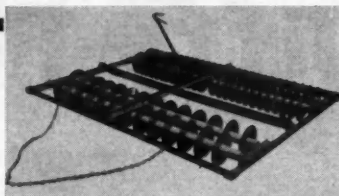
Gentlemen: Please send your new "DIGEST
of Last Minute Irrigation Developments".

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Address _____
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Farmer _____ Student _____ Other _____

Mail to nearest John Bean Division factory
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For a really fine, smooth Seed Bed
Here's the Harrow that can in-
crease crop yield so much that it
can pay for itself in one season.

It's a harrow, roller and leveler
combined that will give you a
really fine, smooth seed bed. And
the Simons Harrow is built for
high speed and hard use.

It's adjustable to exactly suit
your soil. Available in 4-5-6-7-8-
9-10-11-12 ft. widths.

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VEGETABLES

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VGAA LAYS PLANS

(Continued from page 14)

Potato growers learned from a leading Ohio potato grower how to raise quality tubers, what constitutes good soil management, importance of quality in potatoes, potato production in Canada, and growing potatoes for chips, and they viewed colored slides on new ideas in potato production.

Dr. Fritz Went, director of Missouri Botanical Gardens, gave an informative address on how weather

AMERICAN CHAPTER ELECTS OFFICERS

The first International Vegetable Growers Conference was held during the VGAA convention. President Walter Pretzer presented A. J. Wills, representative of the vegetable growers of England, who spoke interestingly on vegetable growing in the British Isles. From Canada came John Brown of Ontario Fruit and Vegetable Growers Association. Harold S. Ward, retired Guya-hoga County agent, showed colored pictures of vegetable and greenhouse growing in the United Kingdom.

Chosen officers of the newly formed American chapter of international association were Charles Otto, Huron, Ohio, president; Andrew H. Rosbaugh, Middleburg Heights, Ohio, vice-president; Richard Meister, Willoughby, Ohio, secretary-treasurer. Directors include Ellis Hoag, Elyria, Ohio; Richard Pretzer, Brooklyn Heights, Ohio; Don Shoemaker, Rochester, N.Y.; and Herman Heidrich, Orlando, Fla.

and light conditions affect vegetable crop response.

The International Hothouse Rhubarb Growers held their initial meeting which was well attended and successful beyond expectation.

New Officers and Awards

Elected president of VGAA was George DeVries of Chicago, a member of Cook County Truck Gardeners' and Farmers' Association. Vice-president is Charles Creuziger, Sturtevant, Wis., of Wisconsin Potato Growers Association.

Chosen Vegetable Man of the Year for his work in plant breeding was Dr. A. F. Yeager, recently retired from the University of New Hampshire. The Cornucopia Award was made posthumously to Joe Shelly, VGAA's first full-time secretary. Honorary memberships were bestowed on Charles Sanderson and Ellis Hoag, both Cleveland greenhouse vegetable growers, for their work in vigorously promoting the aims of VGAA. THE END.

BULLETIN ON GIBBERELLINS

Latest information on Gibberellins, Merck & Co.'s brand name for gibberellin plant growth substance, is presented in a new bulletin being offered in limited quantities by the company. The bulletin, entitled What You Can Tell Farmers About Gibberellins, plus a reprint of an article on gibberellins by S. H. Wittwer and M. J. Bukovac, Michigan State University, may be obtained by writing J. J. Simmons, Sales Manager, Plant Products Department, Chemical Division, Merck & Co., Inc., Rahway, N.J.

Melvin Nagel needs an early sweet corn

for local market sales, and he wants a variety that will give him maximum yield at early, premium prices. A hybrid that meets his requirements is Northrup King's new Earli-king. Here's what this Arlington, Minnesota grower says:

"Here at Nagel Packing Company we sell produce for the local market as well as shipping to Central and South Central United States. Last year we tried three acres of Northrup King's Earli-king sweet corn, and found it to be a very good yielding hybrid considering its earliness (65 days). And all of the crop made U.S. Fancy Corn.

"Earli-king has a very high per cent of double ears per stalk. It's got good spring vigor and cold resistance, too. We had a long, cool season last spring, but those ears filled right up to the tip. All told, it's a good corn to get in quick for the local market."

You'll want to try this Northrup King hybrid yourself for your early sweet corn plantings.

"EARLI-KING IS A GOOD CORN TO GET IN QUICK FOR LOCAL MARKET"



NORTHROP, KING & CO.

MINNEAPOLIS 13
MINNESOTA



THE BIGGEST IN THE WORLD

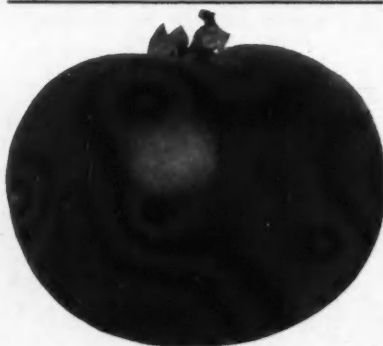


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the world's largest muskmelon. Especially adapted for roadside and nearby markets.

Large Package \$1.00 Postpaid

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New Price List for Commercial Growers

A complete listing of the very finest varieties of Vegetable and Flower Seeds. Forty-six years of research, testing and improving of strains have proved Burgess "Blizzard Belt" seeds to be the finest obtainable.

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As It Looks To Me

By **JOHN CAREW**

Michigan State University

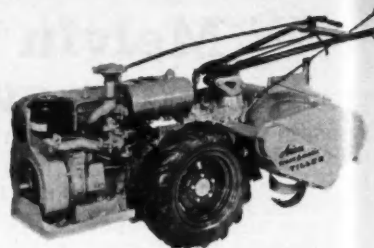
SOMETHING new and different in plant breeding promises to give us sweeter carrots. By literally working in the dark, Clint Peterson and Bruce Carlton, Michigan State University horticulturists, are shedding light on the genetics of carrot flavor.

Bitter carrots glow under ultra-violet or "black" light, the same type of light used to identify minerals and certain seed varieties and to impart a Florida tan without leaving your home. They glow because the bitter material, isocoumarin, is fluorescent.

Bitterness in carrots has been recognized for the past seven or eight years. Carrots brought out of storage for processing in many areas of the United States are sometimes found to have a bitter, oily flavor. Research work by Truscott, Carolus, Bessey, Ellis, Atkin, and others has been valuable. No correlation between bitterness and fertilizers, weed killers, or sprays is apparent. Bitterness appears to be increased by storing carrot roots with apples or in the presence of ethylene gas.

All carrots are not uniformly bitter. One carrot may be extremely bitter while another next to it in storage may be sweet. This suggests a genetic difference.

Peterson and Carlton are breeding non-bitter, high-sugar carrots. Their selection and crossing techniques are normal—examining thousands of



FOR TOUGH TILLING JOBS

.. Choose Ariens

TRANS-A-MATIC heavy duty tiller

Power . . . non-slip traction . . . dependability . . . easy handling make Ariens Trans-A-Matic Tillers outstanding for value and performance. 9.0 h.p. and 16.5 h.p. models. Write for details today!

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PROTECT YOUR CROPS
COLLEGE BRAND
MAGIC CIRCLE DEER REPELLENT
SPRAY Low-Cost Magic Circle Repellent. Creates barricade against Deer, Also Beavers, Woodchucks, Sheep, Skunks and Raccoons in some cases.
Order not offensive to humans.
BUY NOW! Locally, or order direct from State College Laboratories, State College, Pa.
State College Labs., Dept. A, Box 482, State College, Pa.

ZON SCARECROW
Positive protection. Uses carbide or acetylene. No pilot. Retail \$59.50. (Dealerships available)
B. M. LAWRENCE & CO.
244 California St., San Francisco

OUTSTANDING NEW VARIETIES from "The Land of the Senecas"

"SUPERMARKET" F, HYBRID MUSKMELON

(86 days) A new high quality disease resistant Hybrid melon for the Commercial Grower and Home Gardener. Supermarket melons are oval averaging 7" long by 5" in diameter. Tough rind, heavy netting and oval shape hold the melon firm with practically no cracking at blossom end. Flesh deep orange yellow, deliciously sweet with a slight musky flavor. Seed cavity small. Supermarket is resistant to Downy Mildew and Fusarium Wilt, probably our most serious melon diseases. 100 seeds \$1.25, 1/2 oz. \$4.00, 1 oz. \$7.00, 1/4 lb. \$25.00.

"SENECA SUNBEAM"

Hybrid Sweet Corn

(64 days) An early market corn growing 4 1/2 feet tall, few tillers—erect growth. Black green foliage and husk color. Ears medium large but cylindrical, with excellent ear leaves. 12-14 rows of narrow tasty kernels, tips nicely filled. Extremely cold resistant, will emerge and grow when conditions are adverse.
Advantages of this hybrid are its narrower kernel and more cylindrical ear in a fancy husk. Not wilt resistant. 5 lbs. \$4.40, 10 lbs. \$8.10, 25 lbs. or more 76c per lb., 100 lbs. or more 72c per lb.

ROBSON

QUALITY SEEDS, INC.
BOX 99 HALL, N. Y.

roots to select smooth shaped disease resistant this is not also pass the are stored v Each is the violet light glow and m The techn all bitter tast those that d a bitter flav tractive row during this

Cauliflower

Two new watching. C parently re Cat-skill are is a stem an in many pa ticed also in

Several suffered he that causes and results Dr. Edwin has been fo ly and repo zation elimi plots, no g tions have b

The ster problem in resembles v cy symptom hollow with coloration. the heads hollow with tissue. No usually fail the problem Michigan S able to find the discolor

In a co and weed Dr. Stanley found that failed to p pounds of pounds of form of S soil applica made for co fertilized v always fre seem to ha borax.

The sym for boron d H. C. Thor who direct search on t No water-s the top of are normal alternative

Solubor is m Co., 100 Park

roots to select those with good color, smooth shape, uniformity, small core, disease resistance, and so forth. But this is not all. The selected roots must also pass the "black light" test. All are stored with apples for 10 weeks. Each is then studied under ultraviolet light to screen out those that glow and may be assumed bitter.

The technique is not perfect. Not all bitter tasting carrots fluoresce. But those that do glow almost always have a bitter flavor. Many outwardly attractive roots fall by the wayside during this test.

Cauliflower Troubles

Two new cauliflower problems bear watching. One is a root disease apparently restricted so far to the Catskill area of New York. The other is a stem and curd breakdown, severe in many parts of Michigan but noticed also in other states.

Several New York growers have suffered heavy losses from a disease that causes a blackening of the roots and results in severe wilting of plants. Dr. Edwin Oyer, Cornell University, has been following the problem closely and reports that while soil sterilization eliminated the disorder in test plots, no general field recommendations have been worked out.

The stem and curd breakdown problem in Michigan and other states resembles well-known boron deficiency symptoms. Stems are irregularly hollow with a brown or black discoloration. The outside appearance of the heads is normal but many are hollow with darkly colored internal tissue. Normal harvesting methods usually fail to reveal the severity of the problem. Dr. Donald deZeeuw, Michigan State University, was unable to find any disease organisms in the discolored tissue.

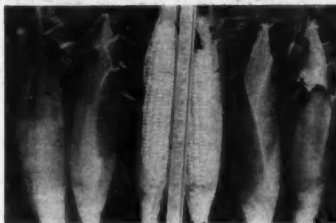
In a combination fertilizer-spray and weed control experiment with Dr. Stanley Ries this past fall, we found that boron sprays to the foliage failed to prevent trouble. Up to 6 pounds of boron (equivalent to 50 pounds of borax) was applied in the form of Solubor. Unfortunately, no soil applications of borax had been made for comparison. Although fields fertilized with extra boron are not always free of the disorder, they seem to have less than those without borax.

The symptoms are not fully typical for boron deficiency, according to Dr. H. C. Thompson, Cornell University, who directed the original U.S. research on this problem 25 years ago. No water-soaked areas developed on the top of the head and the leaves are normal but, as he says, there is no alternative explanation. **THE END.**

Solubor is manufactured by Pacific Coast Borax Co., 100 Park Ave., New York 17, N. Y.

JANUARY, 1959

New, Extra Early Hybrid EARLY GOLD CREST



New, first introduced in 1958. One of the earliest in experiment station tests in both USA and Canada. Resistant to Bacterial Wilt. Heavy crop of 8 inch ears, 12 rows; tight tips, sturdy plants. Averages nearly 2 ears per stalk. Developed for growers to hit the early market with the finest quality.

New, Fusarium Resistant QUEEN OF COLORADO



NEW Fusarium Wilt Resistant Queen of Colorado Cantaloupe. Vigorous vines; keeps well after picking. Fine appearance, delicious flavor, ideal market variety. Has good sales appeal on all markets. OUR SPECIAL CATALOG lists 87 selected strains planted by growers in 48 states. Send for your FREE CATALOG WITH COMMERCIAL PRICES

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ONE OF AMERICA'S DEPENDABLE GROWERS

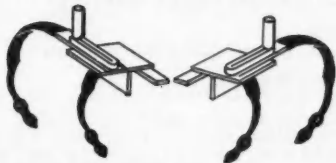
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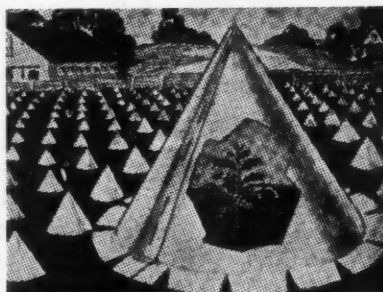
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Earlier and More Profitable Crops

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AMERICAN VEGETABLE GROWER

DO VAR

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This will stock is rep out underg tion and practices it few plant g eties to dr type or to l "run out."

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In 1951 he as consulting Minister of A ment from U

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Horseradish

ILLINOIS

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VEGETABLE

A two-day Sh will be offer ery 22-23. Th commercial v gain an unde practices are for diagnosing help the grow prove detrim residents of A residents. An charged for a be obtained fr lege of Agricul

DO VARIETIES RUN OUT?

(Continued from page 9)

evaluated. The seed produced from this increase is usually sufficient to serve as parent seed stock for a number of commercial seed crops, sometimes enough for 10 years. Each seed crop grown from that particular stock will be genetically identical with those grown the years before and the years following.

This will not be so, however, if a stock is repeatedly propagated without undergoing this process of selection and evaluation. Under such practices it requires only a relatively few plant generations for some varieties to drift from the established type or to lose its uniformity—or to "run out."

With an adequate type of stock maintenance program it would be rare indeed to find a stock "running out," and with those varieties important for the commercial vegetable industry, it would assuredly never happen. If an individual sales stock produces an abnormally high percentage of off-types in the vegetable grower's field, the causes are to be found elsewhere, either as described earlier or in the circumstances surrounding the production or processing of that particular seed crop, and not in its basic hereditary make-up. THE END.

STATE NEWS

(Continued from page 30)

station, a post he held until his retirement on January 31, 1950.

In 1951 he went to San Jose, Costa Rica, as consulting director to that country's Minister of Agriculture under an appointment from USDA.

As a result of his outstanding research and other service to agriculture he was named a fellow of the American Association for the Advancement of Science and honorary life member of the Florida Academy of Science and the Florida State Horticultural Society.

Horseradish Research

ILLINOIS—Horseradish is undergoing extensive study by horticulturists, plant pathologists, and entomologists, according to University of Illinois Agricultural Extension Service. These researchers are attempting to develop new varieties of horseradish, and new fungicides, insecticides, and weed control methods for use on this crop. They are also studying the effects of trace elements on horseradish.

VEGETABLE GROWING COURSE OFFERED

A two-day Short Course in Vegetable Growing will be offered at Rutgers University on January 22-23. This course will be of value to the commercial vegetable grower who wishes to gain an understanding of why various cultural practices are followed. It will serve as a basis for diagnosing certain vegetable troubles and help the grower avoid practices which might prove detrimental. The fee is \$2.00 each for residents of New Jersey, and \$4.00 for non-residents. An additional fee of \$1.00 will be charged for supplies. Further information may be obtained from Dean Westervelt Griffin, College of Agriculture, New Brunswick, N.J.

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4'2" x 200'	\$ 5.87	\$ 5.51	\$ 5.33
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.004			
3' x 100'	4.43	4.17	4.04
4'6" x 100'	6.28	5.89	5.69
6' x 100'	8.15	7.64	7.37
8' x 100'	10.60	9.90	9.54
10'6" x 100'	13.64	12.72	12.26
20' x 100'	25.31	23.55	22.68
.006			
10' x 100'	19.17	17.86	17.20
16' x 100'	30.23	28.13	27.08
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ALL GAUGES—Widths up to 40 ft.

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Big useable sample piece 10 ft. long by 3 ft. wide. Send \$1.00 cash, check or stamps for this big sample by mail, postpaid



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The praise of TRI-X #317 that we have received in *unsolicited* reports from experienced growers is far better than anything we can tell you about this hybrid. These growers tell us of superb quality and high yield of #317, with brisk demand at good prices. *We suggest that YOU grow TRI-X #317 this year.*

At your seed dealer's or write

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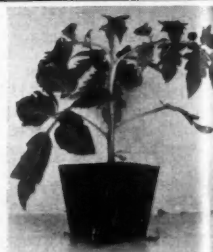
Inside top Dimension of pot	Number of pots	Number pots per Carton	Approx. Wt. of Carton	Price per
S-1428A 2¼-in. Diameter	2,000 to 16,000	2000	30 lbs.	\$ 7.25
Round	20,000 to 74,000			6.75
S-1428B 3-in. Diameter	76,000 and over			6.25
Round	1,000 to 9,000	1000	24 lbs.	13.25
S-1428C 4-in. Diameter	10,000 to 49,000			12.25
Round	50,000 and over			11.00
S-1428D 5-in. Diameter	500 to 2,000	500	27 lbs.	29.25
Round	2,500 to 10,000			25.25
S-1428E 6-in. Diameter	11,000 and over			28.75
Round	500 to 2,000	500	23 lbs.	26.25
Asies	2,500 to 9,500			24.75
	10,000 and over			

VAL-PEAT POTS — SQUARE SIZES

Inside top Dimension of pot	Number of pots	Number pots per Carton	Approx. Wt. of Carton	Price per
S-1428 1¾-in. Diameter	2,500 to 17,500	2500	30 lbs.	\$ 7.00
Square	20,000 to 70,000			6.50
S-1428F 2¼-in. Diameter	72,500 and over			6.00
Square	2,000 to 18,000	2000	40 lbs.	11.00
S-1428G 3-in. Diameter	20,000 to 74,000			10.25
Square	76,000 and over			9.50
S-1428H 4-in. Diameter	1,000 to 9,000	1000	40 lbs.	18.25
Square	10,000 to 49,000			17.00
	50,000 and over			15.25

Vaughan's Seed Co.

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Goggle-Resp
Combination

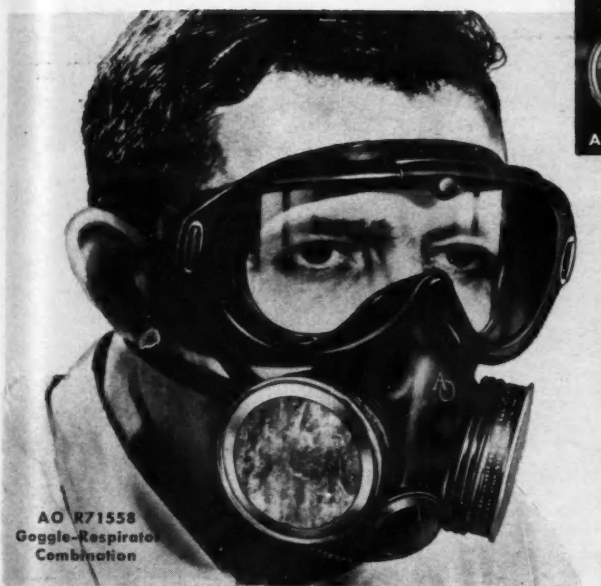
DUSTS can be a nuisance. A and discomfort lightest and l BUREAU OF RESPIRATOR strongly reco protection ag grain dust, h flour and oth found in far Price: R91

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"Work Safe" with AO Quality Respirators and Safety Glasses



AO R71558
Goggle-Respirator
Combination

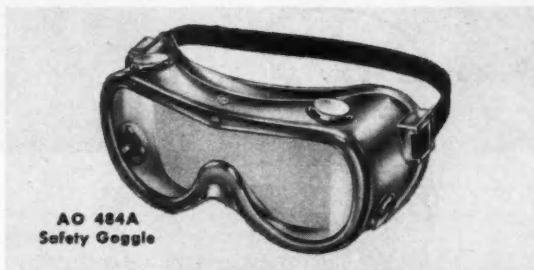


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**Made by the American Optical Company —
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INSECTICIDES can kill humans as well as insects! Protect yourself and workers *securely* during field application by wearing either the R5058 Respirator or the R71558 Respirator-Goggle Combination illustrated.

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AO R9100
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